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March 1994

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March 1994

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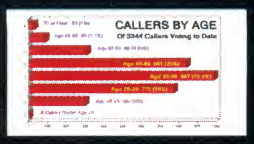

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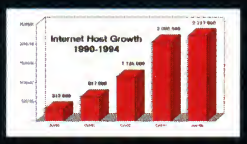

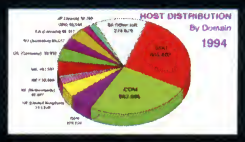

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EDITOR'S NOTES

A SYSOP BY ANY OTHER NAME....

I recently attended a one-day seminar/conference on the topic of the Internet. Despite modest promotion and goals for this event, some 300 attendees gave up a Saturday in an attempt to find out what the "National Data SuperHighway" buzzword really means. I find it striking that so many are so interested in something so ethereal. Their disappointment with the vagaries of telnet, ftp, and the UNIX C shell was palpable.

And other seminars, conferences, and meetings are popping up across the landscape like mushrooms after an autumn rain. It's become something of a cottage industry. And there is a strange disjuncture between the expectations raised by this National Data SuperHighway hysteria, and the realities of the closest thing to it currently, the existing Internet.

My vision of where the rubber meets the road is, of course, not too difficult to predict. We still think the vast majority of people who will ever travel this new byway of commerce, will do so via existing electronic bulletin boards and their larger brethren, the commercial networks such as CompuServe, AOL, Delphi, etc. We are entering an enormous "connectivity frenzy" with all these services striving to become more connected than thou - to a good end result. We found it curious to learn that if you telnet compuserve.com, you will get a login prompt for a "beta" password, whatever that might mean. And it would appear that telnet/ftp/gopher etc. from the CIS service is not very far off. AOL likewise is experimenting with some limited Internet features.

As an aside, if you read my last editorial predicting an online service shortage before the end of this year, note that it may not even be as long a calendar as all of that as it turns out. AOL, which reached a half-million subscribers by year's end last, has apparently added another 100,000 accounts during the month of January, 1994, and you can't reliably get a port in the evening any more at all. Steve Case has very forthrightly posted a letter to the user base, available from the logon menu, describing the situation and what they are doing about it. This kind of up front communication seems to blunt the sword of subscriber criticism pretty effectively. But you notice none of the other online services are hooting about AOL's plight, nor touting their own infinite capacity. The reason is that all of them are straining to meet demand, an odd position for an industry that has been hell bent on getting more people online for the past decade.

We have of course been touting the need for connectivity in the BBS industry for many years, and specifically via Internet for the past three. Again, we have somehow transitioned from madman status to prophet over the course of the period. I found the need for e-mail connectivity most pressing, and today there are probably some 2000 bulletin boards offering a UUCP mail link to the Domain Name System e-mail world. We fully expect this to grow to some 12,000 systems this year. I've also touted the need for IP connectivity for bulletin boards. The problem has actually been the lack of availability of tools to do this. Most of the IP connectivity hails from the UNIX world, and it is an awkward fit for DOS-based systems. So I saw a significant tool-building phase that would not only cause some excitement in BBS-land, but give software developers a whole new frontier to get hot and sweaty over. But I really thought it would be somewhat prolonged.

Apparently not. A couple of factors have accelerated the move. First, the number of IP link providers has exploded. Where we had one in Denver, we now have at least SIX offering the link. The price of a 56 KB port seems to drop with every conversation. Most recently I learned of a "co-op" here in Denver offering the links for $250 per month. Now I learn that US West is promoting T1 lines at $169 per month locally and waiving installation. Suddenly, big time IP connections are showing up for a total cost comparable to a SLIP connection of a year ago. The price of the wire is spiraling toward no dollars and little sense with exciting haste.

And the tool building may not be far behind. eSoft, Inc., is working on some "secret stuff" that may not only allow a fully functional T1 connection to the Internet for bulletin boards, but may widen the range a bit by allowing bulletin boards to connect to each other and build their OWN TCP/IP networks in the future, complete with name-servers and MX forwarding tables et al. TBBS author Phil Becker insists that in the future, for all practical purposes DOS-based IBM compatible personal computer bulletin board systems will BE the Internet - at least statistically.

Brad Clements of Murkworks appears bent on using the Novell platform to allow LAN based bulletin boards such as Wildcat! and PCBoard similar functionality. And we've even heard from one Canadian developer intent on planting the same ability right into the heart of The Major BBS.

The result is that we have discussed installation of full IP networking of the Atlanta Market Center INFORUM with NovX InterServ to put a T1 link between the Online Networking Exposition and BBS Convention (ONE BBSCON) and the Internet so that all of the vendors can show their new secret stuff, and add the ability to allow companies such as Quarterdeck and Netmanage to show off their iconic Internet software for the Windows platform as well.

Our hope for ONE BBSCON this August in Atlanta centered around the concept of some 3500 attendees discussing these issues. Already, it's beginning to look like 5,000 might be the more correct number. For one thing, Ziff Desktop Information, sponsor of the Summer Shareware Seminar, has agreed it would be a very good thing to host this popular shareware developer conference in conjunction with ONE BBSCON. The symbiotic relationship between shareware software developers and BBS operators has been both historically long, and very productive for both groups. As a result we're very excited about putting them together in the same facility. So we'll be adding several entire tracks of sessions for shareware authors, and prospective shareware authors to learn from those who've made it what works and what doesn't in developing , promoting, and effectively marketing software from scratch. This is so thematically similar to what we do with BBS operators at ONE BBSCON, I have to believe it's a natural. Both groups are intensely entreprenurial. Summer Shareware Seminar of June 1993 attracted over 500 shareware authors. With the added attraction of ONE

BBSCON, we have to believe it will do even better this year. To top it off, it would appear ***PC Magazine*** will host a **Shareware Awards Banquet** at ONE BBSCON on Friday, August 19th, to honor some of the stars and outstanding shareware programs of this genre.

We're also apparently in the process of redefining precisely what a BBS operator or "sysop" is. Larry Woods, head of Go Graphics, a small Florida company that manages CompuServe's Graphics forums, has made an effective case over the past few years that CompuServe forum administrators are really BBS operators. They manage multiple public message areas, file areas, chat areas, and face almost precisely the same legal, social, and caller management issues as the operator of any independent BBS. He's attended the last few ONE BBSCON conventions and claims that what he learned there has equipped him to seriously increase traffic in his graphics forums. Almost all of these forum administrators have a "contractor" relationship with CompuServe and virtually none of them actually work directly for the corporation, indeed it would appear that many of them have never even been to the Columbus Ohio headquarters and they are geographically located all over the country. This last rather piqued my interest. "Where do they get together?" "Well, they don't really," was the reply - "at least not physically." Ahhhh... So we have discussed with CIS the possibility of hosting ALL the CIS forum administrators at ONE BBSCON as well. Inevitably, there are some issues to be worked off. But management at the company seemed genuinely excited at the prospect of a team-building event at ONE BBSCON where THEIR sysops could get together, as well as benefit from the 140 or so educational sessions we host.

With the exception of dealing with modems and hardware, they look like BBS operators to us, and with the coming prospects of BBS communication by TCP/IP, possibly cable television data channels, direct broadcast satellite TV, wireless technologies, and other BBS delivery mechanisms, we're inclined to treat with great care any narrow definition of the term "sysop." Returning to Ward Christensen's original CBBS in Chicago, the first bulletin board system, it allowed any caller to logon to the system and post an electronic written mail message for public viewing by all, and to read the public postings of others, in "bulletin board" fashion - thereby forming an electronic public discussion area. If you manage or operate something that does that, we would have to claim you as a BBS operator, and the delivery and/or billing mechanisms are probably and truly both irrelevent, and strongly subject to change in the future.

With the addition of such groups, and the strong technical move across the landscape of a "new connectivity" afforded by this Internet connection, I have to believe that for those wanting to know about the coming National Data SuperHighway, and particularly how the entrepreneurs and infopreneurs who will make a living from their home office on this new byway of commerce will do it, I do not believe there will be ANY convention or event in 1994 that even approaches ONE BBSCON. We look forward to meeting some 5,000 of the most exciting and creative people of our age this August in Atlanta.

We are particularly pleased to introduce, in this issue, columnist Ric Manning with his Prowling Prodigy col-

umn. And the particular source of our pleasure probably bears some comment. Boardwatch Magazine was NOT actually the first publication to cover the world of electronic bulletin boards and online services. The first we are aware of was a small newsletter publication titled PLUMB from the early 1980s and it was in all respects excellent. Ric Manning published ***PLUMB***. Its demise was not only not a reflection of its quality and interest, but indeed a classic case of being far ahead of its time. The online community just wasn't very large in those early days, and having walked the walk myself some years later with the early Boardwatch, I'm certain there just was no way economically to do a self-supporting publication for this genre when ***PLUMB*** was in publication.. So in bringing Mr. Manning to the pages of ***Boardwatch***, we have in some great circle sense, brought this to closure and Ric Manning back into the fold. He is a superbly artful writer, and his credentials to cover this world of communications clearly exceed our own.

Similarly, interest in our Internet section continues unabated. And Harley Hahn brings us an unusual level of expertise and experience in this area. I personally encountered Hahn's writing in an assembly language textbook titled ***Assembler Inside and Out*** that dominated that genre sufficiently to be selected by Microsoft for inclusion with their MASM assembler package - and I liked it anyway. He has authored another book that has also reached "standard reference" status in ***A Student's Guide to UNIX***. More recently, we had very favorably reviewed his ***The Internet Complete Reference*** and ***The Internet Yellow Pages*** - both superb guides to using the Internet effectively..

The mission here is to expand our coverage of an online community that is in an explosive growth phase - to do a better job of covering a difficult topic widening on all horizons. This March issue marks completion of our seventh full year of publication - our first monthly issue carried the mark of March 1987. I've had a certain "attitude" about how a magazine ought be done, a community served, and the writing that goes into making that happen. Expanding coverage and retaining that aspect of ***Boardwatch*** that we think makes it special frankly has caused some "trembling at the task before us." I'm encouraged by the ready willingness of writers of the caliber of **Dvorak, Bowen, Hahn**, and **Manning** to join our existing team of **Warren, Rose, Thompson, Gallagher** and **Gram-Reefer** in this mission. Ultimately I find an acre of test labs widely uninteresting, and a crack team of the write people more likely to be a winning combination. We intend our readers be the real winners....

Jack Rickard
Editor Rotundus

A Typical Tale of A Typical Computer User

It was a month of mishaps. The results were weird. I have two laptops I take on the road. The coolest is an IBM 750C which I was using one night a few weeks back. Embarrassingly enough I was playing a game while in the bedroom. I decided to put the machine down by the nearby cabinet when I noticed that I was sitting it down on something. I lifted it trying to avoid the object, but the

object seemed to be everywhere in some odd way. As I pulled the computer off the floor I was horrified to see my 8-year-old's super powerful Nature Company magnet dangling from the computer. I knocked off the magnet and opened the machine to see if it would boot. I got a horrible message saying that the machine was no longer functional and the BIOS threw me into some built-in diagnostics. I turned off the machine. I figured the hard disk was wrecked and I'd have to swap it out for a new one. Luckily the 750C has an easily removable hard disk.

Actually the whole machine is quite interesting since the keyboard lifts to reveal a removable hard disk and removable battery and a floppy drive. When you look inside the machine you wonder where the heck the computer is?

So I left the 750C for the moment and turned to my Toshiba 4600C (am I a lucky guy to have such machines or what?) which I'd need on a trip I was taking. I packed it in my suitcase, as usual and took an Airport Connection. I paid little attention to the fact that the driver stood up my suitcase in the back. That lack of attention was revised once the suitcase fell over on a hard left turn the guy made no more than five minutes after we headed to the airport. I thought nothing of it until I arrived at my destination to discover that the computer wouldn't boot. The BIOS said I had no hard disk. So much for the drop test.

Returning home I used a boot disk to get the machine running from the floppy. It still wouldn't read drive C, the hard disk. Great, I thought to myself. So I ran FDISK and I got a message saying that the hard disk couldn't be f-disked. I was thinking that I was getting F-'d myself. But for some unknown reason the drive C was suddenly readable. At least I could get the files off the disk...or so I thought. When I tried to move a file from drive C to a floppy I got a sector not found error. I tried file after file to no avail. Great I thought to myself. Just peachy.

Then the weirdest thing happened. For some reason (I can't for the life of me figure out why I decided to do this) I began to install OS/2 on the laptop. This attempt got me past the install disk and disk 1. Halfway though I got a message telling me that FDISK was unsuccessful and it dropped me into that unusual mini- OS/2 session that is virtually useless except for getting a DIR or running a pure non-GUI OS/2 program. And yes, I discovered that I could get a directory of drive C. Being experimental I tried copying a file from C to a blank floppy. I was stunned when it copied it! This was weird I thought to myself.

I turned off the machine and rebooted DOS and tried the copy file routine again. No dice. Sector not found. I went back to the OS/2 mini-session and bingo the files could be copied confirming the anomaly. I managed to get my files off and I was fine. I put the machine aside to later try fixing the hard disk with Norton or some other utility (I haven't got around to THAT yet). In the meantime I discussed this anomaly with IBM programmers and while they are all amused nobody can explain it. The magic of OS/2 I concluded.

So, back home, I was still thinking about my dead 750C. I figured I'd run those interesting diagnostics and see what happened. So I turned on the machine and much to my surprise it booted and ran fine. I tried over and over and each time it booted fine. Transient magnetism! Great, the 750C is back.

Pleased as punch I began using the 750C and decided to install the IBM PCMCIA modem. I figured this modem was the way to go. So I stuck the modem in and ran the install program. On the IBM provided disk there were numerous sub directories including one for OS/2. I had OS/2 running on this 750C. There was only one executable file on the disk and I ran it. It was apparently a DOS program since the OS/2 executive put me into an VDM (virtual DOS machine) and ran the program. The program presented me with a list of options the first one was to run the modem on a piece of IBM hardware running OS/2. That's what I had and it was number one on the list. So I chose it. You can imagine my surprise when the program then issued an error message telling me that this was a DOS program (the executable install program) and it could not install the selection I had made. Well, then why was this selection even listed as an option?? And where was the OS/2 program? Nuts. Typical. Does anyone at IBM use OS/2? There were no clear instructions in the booklet on how to hand install the necessary drivers and commands, but there was an example of what the CONFIG.SYS file should look like and I saw a command in there referring to the modem. I opened the editor and added the line to the CONFIG.SYS. I now figured I could use the modem. Instead the machine refused to boot and died! I put the 750C aside and grumbled to myself. I'd have to go in there with a text editor and remove the offending line. This required a rigmarole I wasn't happy about. So I sat the machine down and went back to the desktop monster for the time being.

So the net result of the month was two dead laptops. Oh, I suppose if I was more careful, the Toshiba would be running and if I hadn't tried to add a modem to the IBM that it would be running. Over the years you discover that if you do absolutely nothing to these computers, then they work just fine. Don't move them, don't add cards, never install new software and you'll be fine. The moral: road warriors beware!

Dvorak's Recipe of the Month

This is a recipe that I developed from experimentation with leeks. If done right it tastes exactly like a good split pea soup except there are absolutely no peas in it. Like the anomaly with the Toshiba copying files as related in this month's column, this soup too is an anomaly. It's quite tasty and a conversation starter. It's originally called Solano Avenue Leek Soup. I've renamed it to Anomaly Soup in tribute to the Toshiba 4600C.

Anomaly Soup

Ingredients:

1/4-1/2 cup parsley (prefer Italian flat leaf but not Cilantro)
2 medium-sized leeks
5 cloves garlic, chopped
1/2 slice of lean smoked bacon, diced
1/8 cup of long grain rice
3 cups water
2 chicken bouillon cubes
tabasco
butter

Instructions:

Dice all of the white part of the leeks and a quarter of the green part (wash carefully). Fry in a hot pan with the garlic and some olive oil until brown. Add water, bouillon cubes, rice, bacon, a couple of shakes of tabasco and simmer, covered, for 1- 1 1/2 hours. Stir occasionally to keep rice from sticking to pan bottom.

Put the cooked mixture in a blender and puree (leave a few leek chunks behind for texture). Reheat and serve in a shallow soup bowl with a pat of butter in the middle of each bowl. Serve with a sour dough baguette. This classy soup goes well with both red and white wine. Its texture and flavors makes you think that it is a split pea soup.

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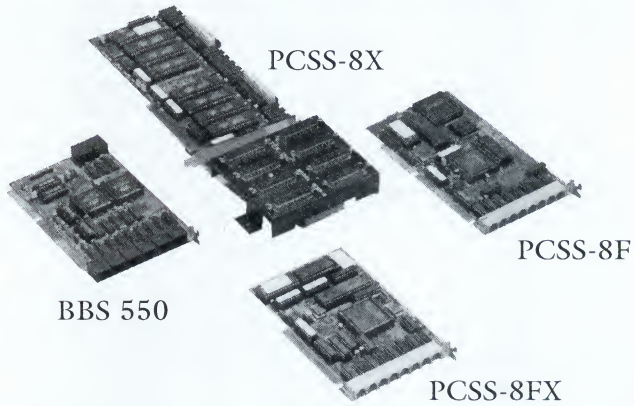

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LETTERS TO THE *EDITOR*

Address correspondence to **Letters to the Editor**, Boardwatch Magazine, 8500 West Bowles Ave., Suite 210, Littleton, CO 80123; by fax to **(303)973-3731**, or by electronic mail to **letters@boardwatch.com**. All letters so addressed are the property of Boardwatch Magazine, and are subject to editing, although I can't recall ever having done so. It could happen I guess.

Dear Jack,

After reading a Boardwatch review of The INTERNET Complete Reference by Harley Hahn, I decided to order it (a VERY wise move on my part). In the more than 750 Internet Resources listed at the end of the book, one caught my eye.

The listing was under Cyberpunk, Agrippa: A Book of the Dead. The file was agrippa.arj. The resource listing gave an anonymous FTP address and a path. I had trouble accessing the path and (as suggested in the book) sent Mr. Hahn a letter. He was kind enough to archie the file and send me an alternate address and path (he couldn't access the path either as the file must have been removed).

Here is the problem. The alternate file was agrippa.z (a UNIX compressed file). I would like to know, using a DOS based system and accessing the Internet through Delphi and CRIS, how do I uncompress the ungrateful S.O.B.?

Any help you or any of your readers can suggest would be greatly appreciated.

Keep up the good work at Boardwatch. Great book and great magazine. I highly recommend both.

Frank J. Santeramo
doink@delphi.com
fsantera@nyx.cs.du.edu

Dear Frank:

Actually, we covered the topic of compressed file formats on the Internet in our article INTERNET FILE FORMATS - DELETE STAR DOT TAR on page 35 of the September 1993 issue of Boardwatch Magazine.

Basically, you have encountered a file compressed with the UNIX COMPRESS utility - they typically end with the .Z or .z suffix. There is an excellent program for DOS titled GZIP available in the file GZIP123.ZIP. Since you are a Delphi subscriber, I would suspect you can find this, and other COMPRESS utilities for DOS in the Internet Support area on Delphi itself.

Harley Hahn's Internet Complete Reference is indeed an excellent guidebook. We are most pleased to welcome him with this issue as a regular columnist in the Internet section of Boardwatch Magazine.

Jack Rickard

Hey Jack... quickly ... how does one get to Novell's Netwire aside from the typical CompuSlurp. I keep reading and hearing possible access techniques and manuveurs one can do to gain access using echo-mail. Something about an Anonymous FTP connection. How is this (in a nutshell) done. That is to get a directory listing and possibly doing some GET file transfer requests to and from the Novell Netwire... I'm so tired of reading all these articles that mention this stuff but fail to completely extrapolate the addresses and syntax lines... Really confusing stuff to a Novice ... I ask gurus of PCs and Networks of all sorts from DOS to Unix... and all have the same mysterious "I don't know how...but I hear it can be done" ... Whew ! Enough already .. can you point a wannabe internet user in the right direction. I'm interested in Netwire as I'm presently a Network Administrator (and much much more - they milk us I tell ya) and would like to have access to Novell updates. Seems everyone is having that Corporate Cutbackitis and that does effect shopping the Compuserve lines.... as they are too too ... TOOOO expensive.

Thanx Jack for any help or direction you might be able to render....

David Arechiga
david.arechiga@burbank.com

David:

The quest for free, or at least cheap, is one of the most powerful ongoing driving forces in the online world. I'm not sure it's always a good thing, but it is a very constant one.

I think we've confused thirty or forty things here, but I'll tell you what I know and what I don't, from the perspective of what I think you know, and let confusion reign impenetrable as it does both widely and well.

First, I know of no way to access Netwire from a FidoNet echomail conference. There is a FidoNet echomail conference on the topic of Novell LAN's, and I've personally found it useful as the conversations are very much "how to" rather than "how come." We carry it on our BBS and it is carried on many thousands of systems nationally - a popular conference actually. There is no way to "retrieve" files and updates via this conference per se, but there are occasional postings describing PARTICULAR update files etc. that are then available by file request via FidoNet.

Now, on to the FTP/GET function. The Internet links a large number of networks via TCP/IP protocol. A UNIX program titled File Transfer Protocol, or FTP, has become one of the very basic applications that take advantage of this protocol, allowing you to logon to other systems and GET files. To use this function, you must have access to the Internet via some dialup service, BBS, etc.

You connect to a system by entering ftp system.name. The program finds the system and connects to it. Typically, you will be asked to login much as you would to a BBS, and in fact, you will usually receive a prompt - login:

By a very loose convention, many, many sites allow what is termed ANONYMOUS ftp. That is, you can login and gain access to a limited series of files, usually held in a public directory (/pub). To do this, enter ANONYMOUS at the login: prompt. You will then be prompted for a password. Again by convention, you normally would enter your e-mail address as the password, and thereby gain access to the system.

As it so happens, Novell DOES make their information available on their own ftp sites, and in fact on a number of mirror sites. Novell's own sites are ftp.novell.com and www.novell.com. So to access those, you would enter the command ftp ftp.novell.com or ftp www.novell.com, and use the anonymous logon procedure.

Once on, you must change directories to the one you want. This is done with the UNIX cd (change directory) command. Novell maintains four subdirectories under the /pub directory.
/pub/NETWIRE - files, patches, misc. documents describing updates and fixes for Novell LAN software.

/pub/UNIXWARE - a similar subdirectory for Novell's UnixWare product

/pub/WWW - sources and binaries for World Wide Web browsers and servers

/pub/CORPINFO - Novell Corporate Information

So to access NETWIRE, you would enter the command cd /pub/NETWIRE. This would put you in the proper directory. You can list all entries in the directory using the UNIX ls command. This would cause a list of files to appear. Finally, you can retrieve a file by entering GET filename. The file is transferred from the current directory to your home directory on the dialup service you are using. Note in all cases that UNIX is case-sensitive.

If you are using a dialup account on an UNIX-based Internet host provider, you will usually have the additional step of downloading the file from your home directory on the UNIX system to your PC. ZModem works a little bit differently here. You would enter the command sz filename.ext at the UNIX command line. The sz command causes a ZModem transfer to your system.

Note that mirror sites (sites containing the same files) are available as follows:

ftp.novell.de	*Duesseldorf Germany*
ftp.rug.nl	*Netherlands*
tui.lincoln.ac.nz	*New Zealand*
novell.nrc.ca	*Ottawa, Ontario Canada*
bnug.proteon.com	*Boston, MA*
netlab2.usu.edu	*Logan UT*
risc.ua.edu	*Tuscaloosa, AL*

Finally, in our December 1993 issue of Boardwatch Magazine, we did describe how to use a combination of ARCHIE and FTPMAIL to do file searches on a global basis and retrieve them by electronic mail. It appears our article, and the resulting use, might have killed the ftpmail server listed in the article, at least temporarily. It is a little awkward, and can take days in some cases when they are backlogged. For your purposes, an account on Delphi or a BBS offering full telnet/ftp service would be more in order.

If all the above seems a little involved, it is. And yes, it is less expensive than CompuServe. There is something to be said for the convenience offered by a NOVELL forum where you can simply download the files. But convenience carries an accompanying expense. The magic is, you get to choose.

Jack Rickard

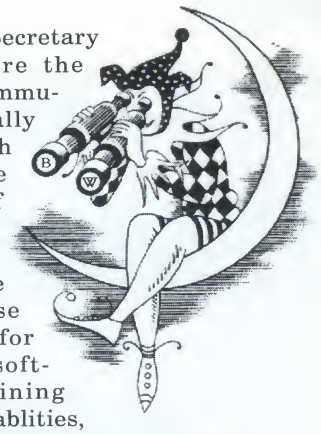
Dear Friends on the Electronic Frontier,

I'm writing a letter to you because the time has now come for action. On Friday, February 4, 1994, the Administration announced that it plans to proceed on every front to make the Clipper Chip encryption scheme a national standard, and to discourage the development and sale of alternative powerful encryption technologies. If the government succeeds in this effort, the resulting blow to individual freedom and privacy could be immeasurable.

As you know, over the last three years, we at EFF have worked to ensure freedom and privacy on the Net. Now I'm writing to let you know about something *you* can do to support freedom and privacy. *Please take a moment to send e-mail to U.S. Rep. Maria Cantwell (cantwell@eff.org) to show your support of H.R. 3627, her bill to liberalize export controls on encryption software.* I believe this bill is critical to empowering ordinary citizens to use strong encryption, as well as to ensuring that the U.S. software industry remains competitive in world markets.

Here are some facts about the bill:

Rep. Cantwell introduced H.R. 3627 in the House of Representatives on November 22, 1993. H.R. 3627 would amend the Export Control Act to move authority over the export of nonmilitary software with encryption capabilities from the Secretary of State (where the intelligence community traditionally has stalled such exports) to the Secretary of Commerce. The bill would also invalidate the current license requirements for nonmilitary software containing encryption capablities, unless there is substantial evidence that the software will be diverted, modified or re-exported to a military or terroristic end-use.



If this bill is passed, it will greatly increase the availability of secure software for ordinary citizens. Currently, software developers do not include strong encryption capabilities in their products, because the State Department refuses to license for export any encryption technology that the NSA can't decipher. Developing two products, one with less secure exportable encryption, would lead to costly duplication of effort, so even software developed for sale in this country doesn't offer maximum security. There is also a legitimate concern that software companies will simply set up branches outside of this country to avoid the export restrictions, costing American jobs.

The lack of widespread commercial encryption products means that it will be very easy for the federal government to set its own standard—the Clipper Chip standard. As you may know, the government's Clipper Chip initiative is designed to set an encryption standard where the government holds the keys to our private conversations. Together with the Digital Telephony bill, which is aimed at making our telephone and computer networks "wiretap-friendly," the Clipper Chip marks a dramatic new effort on the part of the government to prevent us from being able to engage in truly private conversations.

We've been fighting Clipper Chip and Digital Telephony in the policy arena and will continue to do so. But there's another way to fight those initiatives, and that's to make sure that powerful alternative encryption technologies are in the hands of any citizen who wants

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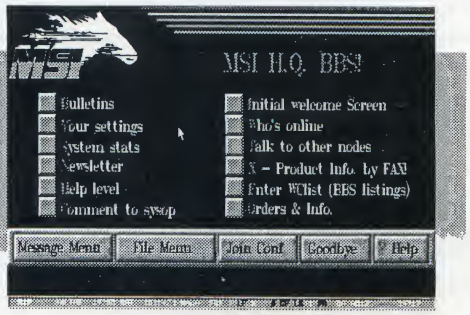

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>
> A.J. Janschewitz
> Connecticut Department
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to use them. The government hopes that, by pushing the Clipper Chip in every way short of explicitly banning alternative technologies, it can limit your choices for secure communications.

Here's what you can do:

I urge you to write to Rep. Cantwell today at cantwell@eff.org. In the Subject header of your message, type "I support HR 3627." In the body of your message, express your reasons for supporting the bill. EFF will deliver printouts of all letters to Rep. Cantwell. With a strong showing of support from the Net community, Rep. Cantwell can tell her colleagues on Capitol Hill that encryption is not only an industry concern, but also a grassroots issue. *Again: remember to put "I support HR 3627" in your Subject header.*

This is the first step in a larger campaign to counter the efforts of those who would restrict our ability to speak freely and with privacy. Please stay tuned—we'll continue to inform you of things you can do to promote the removal of restrictions on encryption.

In the meantime, you can make your voice heard—it's as easy as e-mail. Write to **cantwell@eff.org** today.

Sincerely,

Jerry Berman
jberman@eff.org
Executive Director
Electronic Frontier Foundation
1001 G Street, NW,
Suite 950 East,
Washington, DC 20001
202-347-5400 voice
202-393-5509 fax

P.S. If you want additional information about the Cantwell bill, send e-mail to **cantwell-info@eff.org.** To join EFF, write membership@eff.org.

The text of the Cantwell bill can be found with the any of the following URLs (Universal Resource Locaters):

ftp://ftp.eff.org/pub/Policy/Legislation/cantwell.bill
http://www.eff.org/ftp/EFF/Policy/Legislation/cantwell.bill
gopher://gopher.eff.org/00/EFF/legislation/cantwell.bill

Dear Readers All:

By way of explanation, the letter above was sent out quite widely on the network, and forwarded to Boardwatch by Sarah Simpson of the EFF rather than as part of our usual letters to the editor mail. We consider it of sufficient importance to include it anyway.

We haven't followed the Clipper initiative in Boardwatch in any particular detail because we wrongly assumed that it was such an absurd proposition that it was effectively stillborn on release by the government. The debate on Clipper, at least in the online community, was so overwhelmingly one-sided against the concept that it proved a boring discussion. We underestimated the power of the political process in Washington to treat the absurd as intellectually rigorous and plausible.

Clipper is a proposal by government that data encryption is a good thing, and in fact we should all encrypt all of our data and give the government the keys to decrypt it - for safe keeping. In this way, electronic mail, voice telephone conversations, and other forms of communication could be secure and private, by mandate, unless the government wanted to know what you were saying. "Trust me - I'm from the government and I'm here to help." The proposal came into being in the Bush Administration, but didn't gain any particularly effective following until the Clinton Administration came into office.

I INSIST that this proposal is too moronic for words, and publicly declare that anyone favoring this is in fact a certifiable moron without intellectual benefit of the lessons of history reaching back prior to their lunch hour. Beyond that, I will not personally participate in a debate on this topic in the pages of Boardwatch Magazine - or even conversationally for that matter.

That said, it appears it is gaining sway in the halls of our government, and it is to our benefit that Jerry Berman and the EFF are willing to do the sometimes unrewarding groundwork to fight these things in the beltway. Cantwell's bill basically makes data encryption in software a viable product by removing the also-not-very-well-thought-out export controls on software encryption that make the marketing of software containing encryption an invitation to government participation in your marketing process. Bottom line, Cantwell's bill removes shackles from software developers, encourages development of encryption software, and makes Clipper irrelevant - all good things.

As a result, we are reviewing Cantwell's bill in detail and will forward an electronic mail message supporting this bill per Berman's request. We would urge all like-minded Boardwatch readers to do the same. I don't personally favor fill-in-the-blank political communications, and note positively that Berman apparently doesn't either. You would have to outline your own concerns in your e-mail message rather originally. But it is a worthwhile effort.

Jack Rickard

Jack,

I don't know if this is stale news or not but just in case you don't know, the publisher of Penthouse, General Media International had filed a trade mark called "Penthouse Online" on Dec 4, 1992. The description for their service is:
"Electronic transmission of data to customers through the use of modem or other means incorporating material from Penthouse magazine and others as well as sections such as chat, electronic mail, electronic personal ads and a shopping mart."

Looks interesting. :)

John Ho
Dallas, Texas
john@jho.com

John:

Thanks for the tip, it is at the least, interesting. It appears Playboy and Penthouse both have designs on the Cyber-Sex market. They would be well equipped to do so I would think.

Jack Rickard

Mr. Jack Rickard

First off, I have been real busy since your magazine came out with my letter to the editor. Right now, I am not sure whether to kiss you or cuss you. My bbs has loaded up with other bbs owners wanting more information. Others

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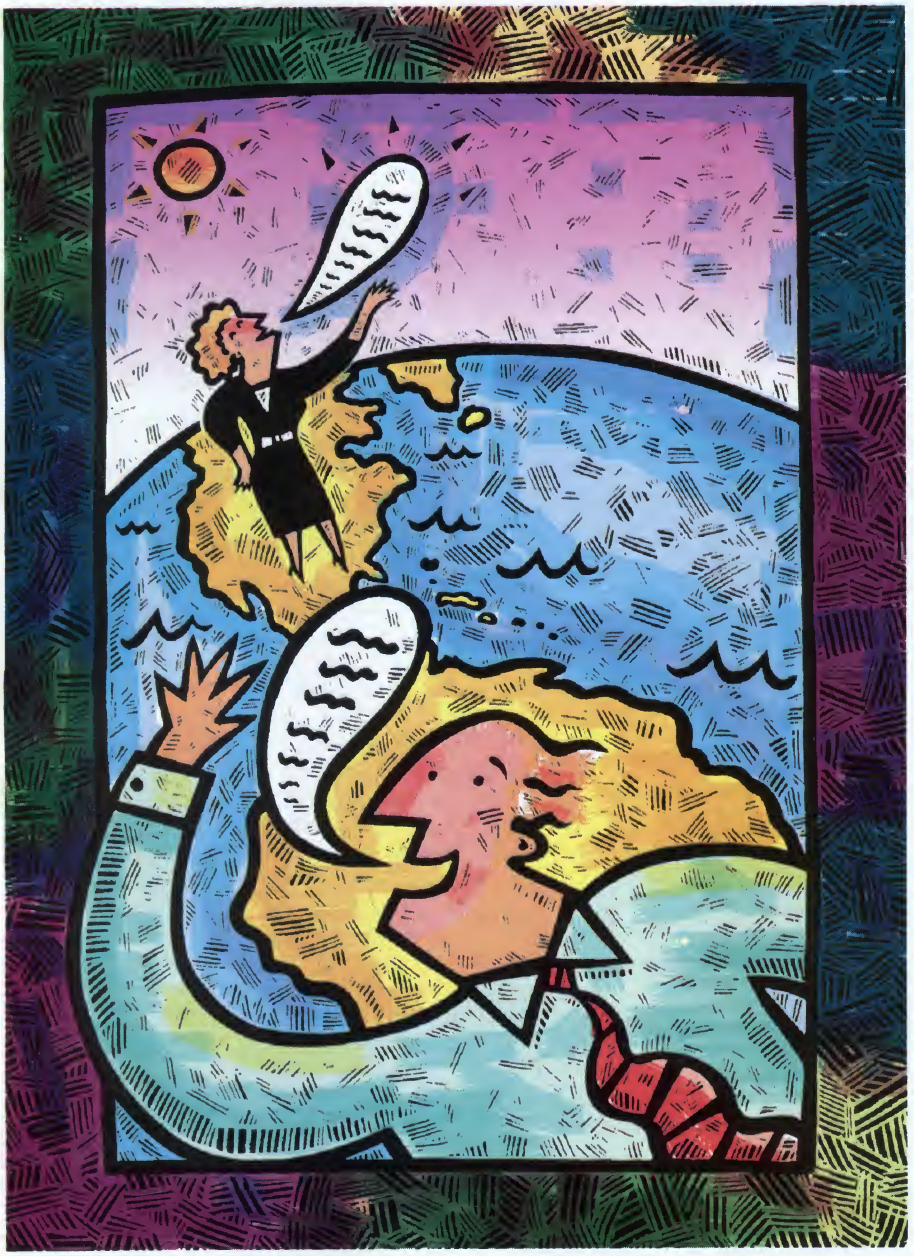

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have been calling my voice line and others have been writing to me.

Your reference to MCI got through to them. First I received a call from MCI and after talking to the person, I sent him some information regarding BNC. A few days later he called back and wanted to do a conference call with a couple of others higher up in MCI. They made several offers to get me to turn over my customer base to them. But, NONE of their offers came even close to the money I am making with BNC.

I am sure that within the next few months there will be several BBS's changing over to this way of signing on callers with all the time I have spent on the phone explaining how to do it. It really isn't hard and it is a win-win situation for both the BBS and the BBS user. There is no other way a caller can get four hours of free long distant calls anywhere. AND, there is no other service offering wholesale long distant service as cheap as BNC. I know, I have either received their offers or have sent off for their offers. Some are even on the ridiculous side.

Anyhow, I don't know how to thank you. Your Boardwatch Magazine must be the BBS magazine every BBS sysop subscribes to if the amount of calls I have received is any indication.

Well, after all this and my second thoughts, the next time I see you at a BBSCON, I'll just come up and thank you personally and not cuss you or kiss you.

Sincerely;

Jerry Brandt
The ILIAMO BBS **314-655-2263**
La Grange, Missouri

Dear Jerry:

No kissing. It's an interesting experiment. Good luck with it.

Jack Rickard

Dear Mr. Rickard:

I have just finished reading your editorial in the January 1994 issue. I am moved to comment on the clarity with which you have defined the problem of an electronic money supply. It is not often I come across an article that presents the why something should occur along with its consequences as well as you have.

You may recall that the late Professor Gerald K. Oneill of Princeton University was faced with developing a theme for his graduate physics class in the 1970s. The question he asked, whether "the surface of a planet was the ideal place for humans to live," resulted in the formation of the current grassroot movements for the industrialization and colonization of space.

I believe the question you have posed would be ideal for graduate economics students to address. I would personally like to send your editorial to several schools to see how they would react to such a suggestion and whether a program would arise from it.

Perhaps you would care to do this on your own. Regardless, the editorial was well written, humorous, and thought provoking. If all I gained from this issue was the editorial, the purchase was worth the price.

Respectfully,
Darrell P. Thompson

Dear Mr. Thompson:

Most of the "solutions" we have received by mail to this stated conundrum seem to be of the form of 25-page "papers" and further seem to revolve around little hardware calculators that you plug in to the world in various ways. And I was disappointed to observe that almost all of them were actually attempts to get AROUND the need for a monetary system from the perspective of an eight-year-old child who wants to ban money so everyone can have anything they want when they want it without these needless restrictions. Not quite my point.

The process of analyzing what might be in the future online usually reduces to detecting and accurately mapping motivating urges and desires. The development of software and hardware tools is actually quite interesting, but rarely important as indicators of things to come. What people want to do, and why they want to do it, can be if you get beyond what they SAY they want to do to what they really want to do.

One of the most powerful, recurring, and almost ubiquitous underlying motivations for going online is quite economic. I believe there is, in the back of the mind of EVERYONE who plugs in a modem, a visceral understanding that distribution is 90% of the value in all products in the world at this point. And that the ability to be productively in contact with potentially millions of other people at virtually negligible cost represents an enormous empowerment of individuals. What this all boils down to is, "If I go online, I could figure out a way to make a living from my living room using this computer." Almost everyone will deny this, and I'm convinced it is totally and universally true.

That's a pretty powerful desire spread rather widely. It may be a little unrealistic at this point, but HOW unrealistic is it really? We DO actually have numerous examples, admittedly of a minority nature, of people who DO in fact operate bulletin board systems, consulting businesses, and so forth almost totally online, and do in fact make their living from the living room. There are actually thousands of people who do this (out of millions online). And thousands more COULD do it on a modest scale, if a monetary system appropriate to the environment were available.

The most simplistic form of this desire goes something like this. "If I post my poem/political tract/plan for saving the world/etc on Prodigy, and anyone who read it sent me a nickel, if just 1% of the people ON Prodigy read it, I would get 20,000 nickels, or $1000 and that's not too much to ask."

True, there are about 300 things wrong with this scenario, but the desire is pretty intense. So far, virtually all of the online services have been just terrified of the very idea of anyone making $12 from the service if it isn't themselves. No ads of any kind, unless of course they are "paid" ads, and so forth. But ultimately, one of these services will likewise detect this urge, and rather than trying to quash it, will put it in harness. There will be 100,000 people post things, and maybe nine of them will make the $1000, but it will be like the lottery - hope springs eternal. And whatever online service does figure a way to harness this will of course swamp everything else online as people fight to get onto the service where they can do this.

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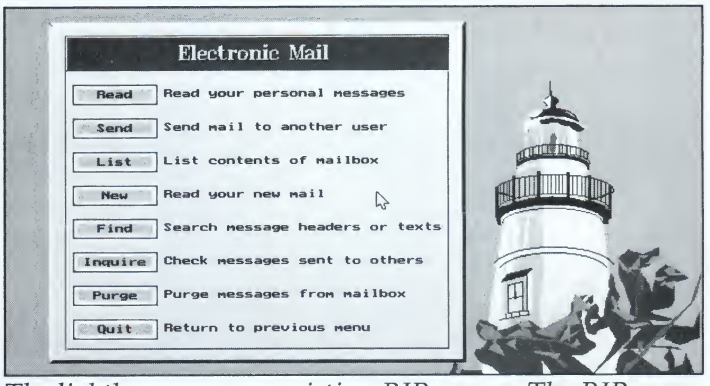
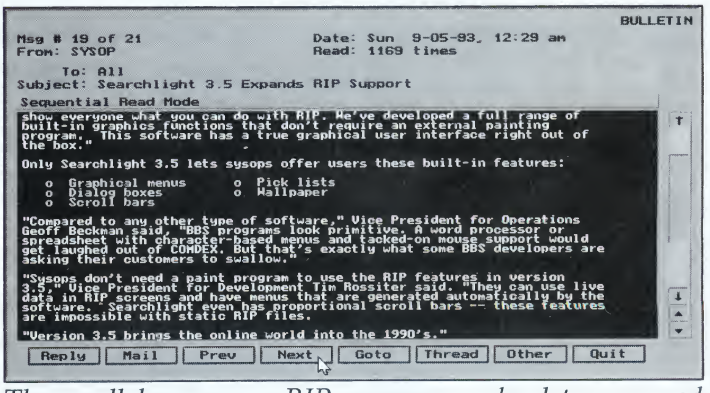


The lighthouse was an existing RIP screen. The RIP menu on it was automatically generated by Searchlight.



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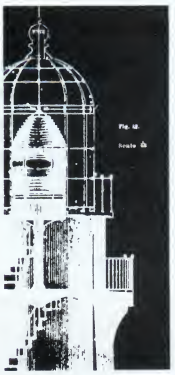

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The problem of course, is what to do with all the checks for $0.40 that must go to the remaining 99,986 posters, and how to deal with all the inquiries from people who are "sure there is something messed up in accounting - where's my $1000?"

This is ONE example of hundreds of how an underlying urge in the online community is stymied and frustrated by the lack of a monetary system. If you could conveniently transfer a quarter online between two people without the administrivia and expense, a lot of things would work.

Alarmingly, some of the more real world components of monetary systems are also breaking down based on the wider concept that we can contact and interact with people on a national or international basis - and our existing money system derives from an era when that was unthinkable.

In answer to your question, I think it would be a fascinating hypothetical for an economics class. And by all means forward it to whomever you think might find the problem engaging.

Jack Rickard

Dear Jack:

Having just read my first Boardwatch, January 1994, I was, to my great surprise, very impressed. Congratulations on a fine magazine.

However, I am writing in response to some of your notions about education expressed in the letters section. People should not propose solutions to problems without understanding where the problems originated or what constitutes a solution.

In 1890, the average American had a sixth grade education. But that education cannot be compared to a sixth grade education today. In 1890, a sixth grader was reading Hawthorne, Hemmingway, and Shakespeare. He was discussing the meaning of truth, virtue, and a good life using material from the Bible and the great philosophers. Your great, great grandparents had a vocabulary that would put most college professors to shame. And to top it off, the literacy rate was higher in 1890 than it was in 1990.

Most schools in the nineteenth century did not give exams and did not give grades. The purpose of schools was education, not grading children like a bushel of apples. Our schools today are the result of applying the industrial model to education. It is a direct result of the Industrial Revolution.

Before railroads criss-crossed the entire nation, "workers" were known as craftsmen and rightly so. Look at the ornate architecture and detail in the buildings they constructed. Look at their jewelry, picture frames, tools, and just about anything else you can name. Art was added to function. Factories did not exist - only small shops that distributed their goods over equally small regions.

After the railroads were built, distribution of goods over a larger area was economically practical and many shops found themselves unable to meet the demand for their goods. As a result, factories were built that could produce great quantities of identical parts to be assembled on vast assembly lines (a concept put forward by Eli Whitney).

Absenteeism from factories was very high. If you needed 13,000 workers on your assembly lines every day, you had to hire 50,000 workers because on any given day, 37,000 would not show up for work. Clearly, for a factory to work, people had to be as interchangeable as the parts they assembled. Craftsmanship and individual contribution had little to do with factories.

Cities were being flooded with people seeking jobs in the factories. The workers' children needed schooling, but the cities lacked both the schools and the funds to build them in the traditional sense. Out of the necessity of the times, schools were molded into the industrial model. Teachers are the workers and our children are on an assembly line being shuffled from room to room, worker to worker, each being given a new piece of knowledge until they fall off the end of the assembly line.

The complaint today is, of course, the quality of the education our kids are receiving. Factions today are being torn between blaming teachers for their lack of craftsmanship and blaming schools for their lack of quality control. The two are mutually exclusive in the industrial model since craftsmanship implies individual contribution and quality control implies uniformity. My sister, a third grade teacher in a ghetto school is a prime example. She considers teaching an art and was always looking for better ways to teach children. She was so successful that she was invited to give seminars and head workshops all over the country. But at the same time, her own state and school district were increasingly dictating her curriculum. Finally, she gave up and now manages a religious book store.

Edward Demming, the quality control expert that made Japan great, points out that quality control does not reduce the number of defects produced, only the number shipped. Improving processes reduces the number of defects manufactured. Quality control allows you to differentiate good from bad, but it does not in and of itself produce good. Indeed, it has been shown that mandating quality control without improving the manufacturing process can actually increase the number of defects manufactured!

Consider the following real-life example of the wrong headedness of mandating quality control. A bank (who will remain unnamed) was upset by the fact that their tellers tills would frequently not balance. So the bank told the tellers they would be reprimanded each time their till failed to balance. After issuing the mandate the bank was pleased to note that the tills ALWAYS balanced. That is, they were pleased until they found out why the tills balanced. The amount long and short in the tills would average out to zero over time (being honest mistakes), so the tellers whose tills were long would put the extra money in a pool each day and the tellers whose tills were short would remove money from the pool. Everyone's till would balance at no cost to the tellers. Mandating quality does not by itself produce quality.

Mandated Performance Based Education and establishing educational requirements does not tell us how to teach students, it only tells us if we are teaching them. Mandated Performance Based Education demands more uniformity in results, and de-emphasizes individual achievement and competition. If you were a teacher and all your kids had to pass THE TEST (or you might be out of a job), you would

do exactly what more and more teachers are doing - ignoring the kids who are smart enough to pass THE TEST and concentrate all your efforts on those few who you don't think can pass without it. The long term result will be a further decline in achievement in our schools.

Socialism should be defined as applying the industrial model to human activities. That is, after all, what Karl Marx did. (By the way, the ancient Greeks were aware of the industrial model and rejected it on philisophical grounds.) We socialized education, retirement, and welfare. All have resulted in a dehumanizing process that robs people of their individualism, pride and motivation. Clinton will now have us socialize medicine and employment.

Unfortunately, we have been taught to solve problems in the frame of the industrial model all of our lives and our first suggestions always seem to be the dehumanizing organization, control, and grading of humans and their activities.

Fortunately, the Information Revolution may put an end to this situation. Who can doubt the importance of craftsmanship to software and desktop publishing or that multimedia will return individualism and personal achievement to education. And do not doubt for a minute that the "Information Highway" will be as important to the 1990's as the railway was in the 1890's.

Tony Ray
Cactus Computer Co.
211 S. Main St.
Moscow, ID 83843

PS. We are an OEM for Windows for Workgroups and Microsoft sent me a free copy of Windows NT. Microsoft has made Windows for Workgroups less expensive to OEM's than Windows 3.11 (yes 3.11!) so W4W is being shipped with most new computers instead of Windows 3.11. I am using Windows NT and RAS(included with W4W) to create a BBS, if you will, that is accessed by attaching it to your computer as a drive. Which directories you can browse and download and what services you can attach depends on what workgroup you are included in. Forums, e-mail and much more is already included. The possibilities are far greater than any BBS I've ever seen and the time spent maintaining it is minimal.

Dear Tony:

Your letter brings up a number of very pertinent points and I find therein much to recommend it. I share a fascination with the level of education of the common man in America during the period 1840-1920 or thereabouts, and marvel at the powerful and even poetic charm of everyday letters written by soldiers and farmers and railroad men of that era.

I also agree that excellence always stems from the craftsmanship of individuals. There is certainly a powerful move in our current world to seek out examples of excellence, and some how apply the "techniques" systemically to produce mass quantities of excellence while removing our dependence on the individuals. Of course it never works. You can't mass produce excellent results in this way. But you could set the stage where individual craftsmanship could flourish - and thereby get more of it.

Unfortunately, we are into the finer points of the debate here. I don't think you realize how far we've gone down the wrong road in education. I am rather attracted to your concept that education assembly lines are an inherently poor model. And in a future ideal system, I would join you in advocating a more human and individual approach to education. Perhaps the fine line between a universally free and public education, and a socialized education assembly line HAS been breeched in gross fashion.

But I do not agree with your views, or rather mixture, of quality control concepts, Mandated Performance Based Education, and a system to measure results in education that I alluded to in the earlier letter. First, your conclusion from the bank teller example does NOT match my own. Rather, I see the responsibility for till accuracy being clearly moved to the bank tellers, and the tellers devising a solution that actually worked pretty well. That IS what happens when the responsibility for results lands clearly on someone - they DO usually find a solution. It may not be the solution you had in mind, but if you clearly defined the result you wanted, and they did provide it, don't micro-manage the finer points of how the hog got slopped.

In the case of education, I detect an almost unbelievable and certainly shocking move from the NEA camp to redefine the problem as essentially not being a problem, and so shift the debate - mainly by discrediting any measurement system. Contrary to the impression you give, those educated in the last century did not do so bereft of measurement systems. Grading of students was central to the concept of 19th century education - they did get "marks" and they mattered.

Today, my children bring home report cards specifically DESIGNED to obfuscate any definitive scale of achievement. Indeed, I am informed rather directly that this isn't a thing to aspire to. Our children should not be in competition with each other or some arbitrary grading system, but rather graded against the "expectations of the teacher - with those expectations individually tailored to the child."

I usually react to this in face-to-face meetings with these "real-life teachers" by gaping stupidly with my mouth slackly open and my eyes batting the air - heaving even to breathe in the face of such moronic and self-serving stupidity. How do you even deal with such a conversation? Are these people, charged with teaching my children, really in the sub-60 IQ range themselves - trying sincerely but just no tools to work with here? Or do they perhaps think I am? Do they really believe this spoken philosophy? If not, why would they perpetrate such a transparent fraud? Is this an inside joke? Will an aging Alan Funt come out of the closet in a minute and assure me quite candidly that it is just a little camera humor? What if my mother sees me in the company of these people? Most of all, what phrase can I mumble that will get me OUT of this room and free of any further near space/time proximity with these unctuously politically correct morons - with the greatest dispatch? This is the nature of my own personal "parental participation" in the education process.

So yes, I rather favor the concept of standardized tests. Let me take another giant leap into the industrial past and haul out a real bad guy - an A/B/C/D/F grading system. If nothing else, it might bring our professional educators face to face with reality in education.

The other very evident attempt by the NEA crowd is again an excercise in blame transference. They are quite constant in pointing out that where there are excellent results in education, it is because there is strong parental involvement. Ipso facto, it is the non-participation of parents that has led to the decline in education. Again, I don't know if this is a joke or what. This is so basic I cannot believe anyone laying claim to an education themselves would seriously posit this in public as a serious discussion item. It is directly analogous to me saying that we would have a much more successful magazine in Boardwatch if we just had more reader participation from this clearly available nation of some 260 million potential readers. It is a gross example of having the cart before the horse. If we build a better magazine, we will, I assure you, get a larger and more participative readership. And I'm equally sure it doesn't work in the reverse AT ALL! If we do a half-hearted ineffective job of it, we'll lose what readership we have. The onus is on us, not on the readership, to provide excellence that ATTRACTS readers.

Similarly, if, in some sector, you do achieve some success in educating children, parents will of course be there to participate. Everyone loves to be part of the winning ticket. If you fail in providing effective education, don't expect anyone to show up unless they are required to by law - ie the students. That IS the way the world works, no matter how much it ought to be otherwise in your own mind. There is INDEED a relationship between parent participation and success in education. But those advocating parental involvement have the causal relationship precisely and glaringly reversed.

With regards to my "solution" posited in the earlier issue, I myself don't think it is the best solution, or even a particularly good one. It is quite like your bank teller story. If it landed on my desk to fix, those are the steps I would take, and they very definitely would work to achieve the stated goal. Johnny and Sally WOULD learn to read - through a grossly drastic response to the emergency of a thoroughly broken system. They miss an enormous amount of ground in achieving the ideal in an educational system for our nation and society. And they certainly do not achieve the individual, humanistic, and very laudable goals in education you have presented here. But I'm assuming we are not afforded the luxury of an ideal, but rather fixing something so broken, that drastic and very short term measures are required simply to avert an entire generation of total illiteracy. Were it not so, it wouldn't be mine to fix - even hypothetically.

The entire world would be a better place if the education community itself (the "professionals" charged with this and paid billions in public funds to provide it) provided real, long term solutions, and we were able to retain the concept of universal and free public education - with excellence. With their primary focus directed toward convincing us that 1. there is no problem, and 2. if there is, it is parents who are the cause of the problem, I'm not optimistic that a good result is coming from that quarter. Ultimately, it may indeed fall on someone like you or I, Tony, to fix a badly broken thing. And it matters a great deal as to whether it gets fixed or not. There are serious and extreme consequences to it not getting fixed at all for our nation and our society.

Similarly, I would love to share your optimism regarding the "Information Highway". But I don't think railroads caused, helped, or hampered either literacy or the lack of it in the last century, and I don't think wires and glass fibers, no matter how enchanted I am with them personally, are going to form some utopian educational panacea now. They can be a curiously useful tool, but we still have to have those craftsmen you mentioned, and the craftsmen have to have a scorecard to tell winning from losing.

Jack Rickard

Hi there Jack:

I just went through the last two issues of Boardwatch and find it a great publication. Keep up the great work. It is nice to see a magazine that has so much to offer for the growing BBS and online community in Canada and the U.S.

In the last six to eight months however I have noted a preference on the part of the magazine toward the very large BBSs and to Internet Access rather than some of the smaller nets like Fido.

Here in Saskatchewan Canada (The Heart of the Canadian Prairies) we have a Thriving BBS population of about 100 full time BBSs serving about 5000 users . All this in a province that boasts a population of 900,000 people. With very few exceptions all the boards in the area are connected to Fido net as net140 and run at the least the local echo areas for the province. Many other boards here run a fair size portion of the fido net backbone and as such keep Saskatchewan in touch with the rest of the world.

For the most part we have been left alone as far as the big boys and the major online services go as we are a small market and the long Distance phone bills to and from this area are rather high. Given a free Net and the LD cost to bring it in we are already paying what would be normal access to one of the major online services if we lived in one of the larger cities.

As you have been going on about the internet for some time now and with all the hype about the Information Highway I thought I would have a look at it as well to see if it were something that I could bring into the area for the users of my BBS. As there is only one internet outlet in my area (U of S) I went and talked to them and was shocked to find that the cost of Internet access and the LD to bring it in would pay a rather respectable mortgage. Not to mention the fact that all the software that I have been running for years would have to go out the window. (Intermail and RemoteAccess) I also noticed that the only people that use the Internet in this area are the university students and staff so as a means of communication in this area I found it rather wanting. I also found the Addressing and the file requesting rather over complicated, kind of like a computer nerd set out to get his revenge on the university establishment. If there where a way to bring down the cost and provide full service to news areas, files, netmail and many of the other things that internet users take for granted this would be a great deal. But on a cost perservice bases this looks like most people in Canada and the U.S. will have to pass.

Is there any way to make Full access to the internet cost effective for any one other than large buisness institutions or are the private citizens of the world condemed to sit on the sholder of the

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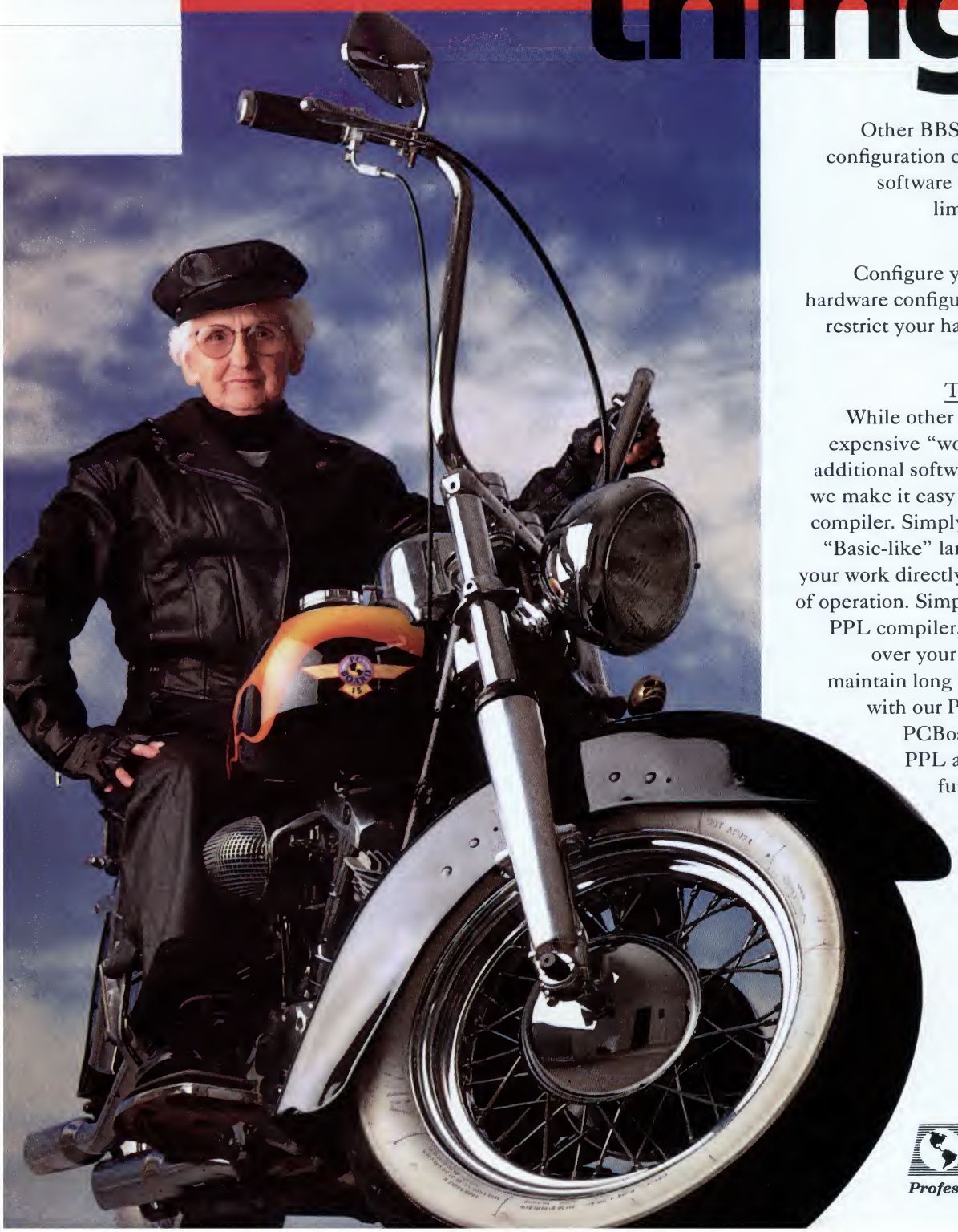

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Mike Nyman
Fidonet 1:140/120

Dear Mike:

I understand your feeling that the world is going by and you're being left out. And I understand your desire, if that be so, for the group left out to be as large as possible, so that the resulting outrage is effective. But I'm afraid you're missing more than just the boat - like maybe the point.

The Internet is not a technology. It is a belief system. It has no established price. It costs whatever anyone thinks they can get for it. Bulletin boards, large commercial services, the government, companies, schools, and most broadly read, nearly everyone that wants to connect to anything really wants to connect to everything. What you detect as our bias toward Internet connectivity is actually us doing our job - pointing you toward the future and alerting you to future trends.

Underlying that is the wish that if we would point elsewhere, the future would follow. That's not precisely how it works. There is, of course, the possibility that we are wrong, in error, have misread the signs of weather, and that you actually have the right idea - cling to FidoNet and you may bury us all. It's possible, but don't bet your house on it.

The Internet, the National Data Superhighway, Cyberspace, et al are code words for an emerging connectivity. Your first encounter indicates that it is technically difficult for you to achieve and expensive. In time, it will migrate strongly toward being cheaper and easier. I don't think anyone will be left out - the price of connectivity will drive toward zero, and the difficulty of achieving connectivity will drive toward none. But there will be those who were there early, paid dearly, and had to hew out their own tools. And there will be those who arrive late. For them it will be very inexpensive, and not at all difficult - perhaps an extra button on their telephone set.

Boardwatch is about the journey. FidoNet was a step on that journey, and one who's day in the sun is passing rapidly with regard to relevance. My advice to you is admittedly cliche' - lead, follow, or get the hell out of the way.

Hello Jack,

I am a Regional echomail hub in Region 17 who runs a 4 line mail-only system, IBM's TCP/IP, and a Usenet gate - all under OS/2 with extremely good success. I have had no down time in the last 6 months due to OS/2. Desqview was another story.

Anyway, you write in Boardwatch magazine on page 20, "That said, to my knowledge NONE of the FidoNet backbone echomail hubs run OS/2 at all at this date." I assume that you mean Zone stars - not echomail hubs.

I send out over a gigabyte of Fidonet/Usenet a month, handle 59,000 outgoing calls on all lines, and greater than 8000 calls incoming per month. Six Months ago I wouldn't even attempt to look at OS/2 because of horrible experiences with 2.0 and 1.3. Now I can't do without it.

105/30 Is currently running around 19 processes, and has been up since I installed OS/2. The only downtime I've had was during times I blasted the configuration files or manually screwed something up, but never have I come home to a "Trap xx:" screen. Chalk one up for OS/2, Jack.

Feel free to print this or use it in whatever means you deem fit.

Chris Bradley
root@beacon.rain.com

Jack,

After reading the editorial in the January '94 issue of Boardwatch I feel motivated to report on my experiences with the German banking system after living there for nearly ten years now. (I am currently visiting my mother in Florida.) It did take me a while to get used to it and to learn to trust it, but it is significantly superior to what is generally available in the USA. True, there are probably some areas in the German system where improvements could be made, but I find it quite advanced and easy to use.

First let me summarize how I execute a payment as an example. Wolfgang's Computer Emporium has a widget on sale that I want to purchase for 49.90 DM plus 3.40 DM for shipping, totalling 53.30 DM. After gaining access to my bank's electronic banking system via modem and password, I only need enter Wolfgang's bank number, his account number and the amount of 53.30 DM into the input form, plus a brief message about my order, and authorize it with a one-time transaction authorization number (TAN), a list of which was sent to me earlier by the bank as registered mail after being generated automatically by the bank's computer. I can enter the transaction at any time during the day or night that the bank's computer system is online and not down for maintanence or other processing.

Depending on when my transaction is entered into the system relative to the bank's nightly processing run, my payment would show up on Wolfgang's bank account possibly the next day or the day after. My bank charges me a very nominal amount for each transaction and Wolfgang receives the full amount I paid him. The charge is roughly comparable to the amount levied by US banks for each check.

The modem connection to the bank is via BTX over the national DATEX-J packet network, which is accessible nearly everywhere as a local call. After I enter all my transactions ahead of time, off-line, and then just press the execute command, my computer (running a Windows program) automatically logs me onto the BTX system with an acct number and password, requests access to the bank's computer using an additional acct number and password, and then transmits all transactions along with the necessary TANs. I do have to enter the TANs from the computer printout into my program beforehand.

For those who choose not to make use of a modem connection to their bank, they may of course fill out a paper form, sign it and mail it or bring it to their bank. A clerk will then enter the transaction into the computer in a manner similar to what I just described.

A further advantage of the electronic system via modem is that I can make daily inquiries about the activity on my account and therefore notice immediately when any payments have come in and when transfers have been executed by the bank. In fact, recurring payments such as rent can be pre-entered

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with the due dates and will be automatically executed.

To answer the points in your editorial:

1. I can transfer any amount I wish.

2. When I execute the payment, that amount is no longer in my account. If a payment has been executed in error, such as to the wrong account number, it can be retracted.

3. The transaction is reported to the recipient with the sender's name and bank account information plus any brief message the sender chooses to enter. Therefore the transaction is not anonymous. Banking regulations in Germany however prescribe a level of secrecy that seems to satisfy most people.

4. The process is very simple and so straight-forward that elderly grandmothers can easily and correctly cope with the system. Some of them may even use computers rather than the paper forms.

5. Payments can be made to anyone whose bank number and account number are available, without "moral" restrictions. Virtually all businesses provide their bank account information on their forms and asking a private individual for that information is no more considered to be an invasion of privacy than asking them for their mailing address so that you could send them a check. Transfers to/from accounts outside Germany are unfortunately still more difficult due to differences in the various national banking systems. Hopefully this will become less of a problem as the European Union becomes more concrete.

6. Transactions can flow between any persons or entities with bank accounts without problem and generally very quickly (depending on the bank).

7. There have doubtless been and will continue to be attempts to compromise banking systems, but I have not heard of any "successes". Obviously any computer system can have weaknesses, but they are quickly addressed as they are discovered. Not having inside knowledge of the system, I am not privy to any incidents that have not been publicized.

8. The money is as good as cash. As soon as the amount has been posted to an account, it can be spent. If someone sends me a amount by mistake and I spend it before it's retracted, then I am liable to refund the amount to my bank.

9. To me it certainly seems simple enough to use and trust.

As I am not familiar with the "CheckFree" electronic banking system in the USA, I cannot compare its features or costs, but I would certainly welcome adoption of a system like what Germany has.

I enjoy reading your magazine. Keep up the good work.

Regards from Florida,
Don Moe
72407.1054@compuserve.com

Mr. Rickard:

First, I must compliment you on an excellent magazine. It is refreshing to read articles by journalists who actually understand economics (not a subject that is particularily difficult to grasp, merely one that many journalists neglect to understand).

The educational institute I work for is looking into the possibility of connecting to the Internet. With all the service providers, manners of connection, hardware, and software available it has become a rather daunting task. I want to give our network users (we're running Novell Netware 3.12 on a 10baseT Ethernet network) full internet access (email, telnet, ftp, etc.). I would also like to provide a simple means for our student and faculty members (we are a membership organization numbering over 50k), authors (we publish several journals), and those generally interested with a means to communicate and exchange files with people in our organization. The answer to both needs seems to be a BBS connected to the internet through a service provider.

Then I see the article on DigiBoard's NC/CON-16 and think, "Yes! It's possible! We can do it." The more I re-read the article the more I wondered how we would do it. I know we can do it, but how exactly?

These are my thoughts—someone correct me if I'm wrong: We could set up a computer running Galacticomm's Major BBS. It has a number of useful modules including one allowing users to connect to the BBS (the BBS computer would have an Ethernet card and would run IPX). We could have four modems on the system (perhaps 28.8) allowing anyone to dail in and conceivably allowing our network users to dial out through the BBS.

But what about allowing Internet users to telnet into the BBS. Most students and faculty don't want to pay long distance or monthly charges to access a BBS, but many students and faculty DO have access to the Internet. My question: Were does the NC/CON 16 (assuming the IPX cartridge is available) enter into all of this? Is it even necessary any more? Couldn't we (and users calling into the BBS) just dial-in to our Internet access provider through an available modem? But then how do Internet users telnet to our BBS? Do I need to establish a special connection with our service provider and connect additional hardware to the BBS?

Thanks
Ed Giles
egiles@tefl.attmail.com

Dear Ed:

You're not alone partner. None of this is really as difficult as it looks, but it's not something you're likely to have picked up in an earlier life either.

I gather you are running a Novell network currently, and already have The Major BBS. So let's start from there. To give your network users access to telnet, ftp, etc. does not require a BBS at all. I've spent an unconscionable amount of time and resource putting together a single article on this topic with the fear of course that no one will read it. If you do, I'm validated. It's titled From Windows to the Internet: Not for the Faint of Heart, and it appears in this issue in the Internet section. It is actually neither difficult nor expensive on the software/installation end, and you sound committed to getting the LAN IP link anyway.

With regards to the NC/CON16, the IPX cartridge is NOT what you want. You want the TCP/IP cartridge. You connect this terminal server to your existing Nov-

ell LAN. You just plug it in. There are some configuration items revolving around IP addresses, and in fact this is covered a bit in the above mentioned articles - the IP address of the box, of your gateway, of your domain name server, and so forth.

The NC/CON 16 converts TCP/IP packets into asynchronous serial port sessions. You connect the box to your MAJOR BBS system with ordinary RS-232 serial cables. To your BBS, it looks just like a modem. So you don't need any special BBS software when using the terminal server approach.

At this point in time, that IS the solution for a Major BBS installation. Connect a terminal server to a TCP/IP LAN and connect it to the BBS with serial cables. Internauts can telnet into your BBS, and BBS callers can telnet out to the Internet.

That said, a company called Vircom, Inc., in Montreal, is working on a TCP/IP TSR for the Major BBS to provide some TCP/IP connectivity WITHOUT the necessity of a terminal server - via ethernet etc. They have contacted us to describe their product development, and I must admit I am NOT particularly optimistic about this particular approach. But it is still in process, and if you are already running The Major BBS, you should probably contact them. You can contact Yves Lachance, Vice President, Vircom, Inc., by electronic mail at elven@gamemaster.qc.ca. I'll include their letter following this one.

We're in a very exciting period of developing tools to connect bulletin boards to the Internet. I would love to do a full spread in Boardwatch on all the things that are going on in this area, but all of the vendors are playing things pretty close to the vest with their "secret stuff" and all the solutions available this week are pretty gruesome. I expect nearly 100% rollout of the BBS to Internet solutions at ONE BBSCON in Atlanta this August. So I would be very hesitant to invest very heavily in anything until then myself.

Jack Rickard

Dear Jack Rickard,

The Internet has been on everyone's tongue in the online world lately. UUCP hosts are having trouble keeping up with the demand. The next wave of connectivity has already started. Users are asking for it. Sysops are looking for solutions...

Connecting a BBS to a "live" Internet (TCP/IP) connection is rapidly becoming the "in" thing to do. Being able to "telnet" and "ftp" to/from any site in the world is getting people very excited. "IRC" is very hot too. Professional services, wishing to accelerate their response-time to prospects, are keeping open eyes on any cheap and efficient solution to get "on" the Internet.

Well, we have a good news for these people: the staff of Vircom inc, operating a 25-lines public BBS in the Montreal (Canada) area, has managed to produce a module for The MajorBBS that allows its users to "telnet" directly on the Internet! The module can be configured so that the user may not even know he/she is using services that are not run on the local BBS.

Using a DOS TSR, we built a protected-mode API that allows the telnet DLL, running under The MajorBBS, to operate over all the devices supported by the TCP/IP stack. Ethernet cards and a serial line operating at 38.4Kbps have been tested, connecting the BBS to a UNIX host.

The telnet module doesn't yet support DNS (Domain Name Server; the target IP address must be known), but that's the next project on the agenda, followed by support for the SMTP, NNTP, IRC & FTP protocols (and client applications). Dial-in telnet will also be available when Galacticomm releases modifications required to its proprietary communication library, GSBL.

Because of the noise all this is making lately, we think you might be interested in making an article about it/us. Do not hesitate to contact us for more information.

Great magazine, that Boardwatch of yours. Have you ever published a list of BBS in the Montreal area? The last count showed more than 400 of them. This seems to be a fairly high ratio, for a 3.5M people city (suburbs included)...

Regards,

Yves Lachance.
Vice-president, Vircom inc.
elven@gamemaster.qc.ca

Dear Yves Lachance:

The connection to the Internet is indeed an exciting frontier for bulletin boards. We will continue to follow this closely in Boardwatch. By all means keep us apprised of your progress.

Jack Rickard

John Dvorak's article is right on. Here in Utah we still do not have ISDN service but US West is giving us frame relay services at much higher cost and lower flexibility. We can and should have practical high speed digital services throughout the US now.

I'd like you to give additional editorial support to roll out ISDN N O W ! Dvorak didn't suggest contacting the Whitehouse directly. You could. You could also publish the Internet addresses for Congress. If you do I'll contact mine and ask others to do the same.

Keep up the good work.

Bill Graff
bill@parlant.com
Parlant Technology
290 N University Ave
Provo UT 84601

Dear Rickard:

I enjoy Boardwatch, and read it whenever I get a chance to pick it up (yes, I probably should suscribe!). I especially enjoy reading of your other readers' trials and woes. Here's something that's just happened between AT&T and me yesterday. I've spelled names phonetically.

Beware what you hear about AT&T's EasyLink electronic mail. ESPECIALLY if you want Internet mail capability. Even though my wife and I have been with AT&T as our long distance carrier since my return to the states, I'm reconsidering it now; I've not been impressed with the EasyLink division.

After moving to Tennessee from Dallas I kept bugging AT&T residential customer service to find out why AT&T didn't have an E-mail service like MCI (more on MCI later). I started in September.

In December I was referred to the business customer number where I found out that they did: AT&T Easylink. I was quite interested, since this had an 800 number, and wasn't long distance from me (as were all the online services).

I talked with both a nice salesman named Ray Pasco and others, including the lady who answers their calls. I explained that my main interest was sending and receiving E-mail to and from the Internet. I asked SEVERAL times on different occasions if there was a charge for receiving E-mail. I was assured that there wasn't, nor was any planned.

On January 28th, several days after I got my password, I found out that there would be a receive charge for mail from the Internet as of February 1st.

I was outraged. As I had found this out from their technical help staff (who call you a day or two after you complain about a problem, like how neither the docs nor the online help nor their answering service mention that EasyLink can only use X-Modem...and that this requires a special command extension), I asked whom I should call. Their tech staff told me that there wasn't anyone whom I could call by voice.

That's right; I wasn't allowed to complain to anyone by voice, only by E-mail.

So I called Ray; he was off until February 1st (Ray's number is (800) 242-6005, which I think is their telemarketing center in Dallas, if you want to check on this).

I then called Libby Melton's (Ray's supervisor) mailbox; she was busy. I called back to find out who her supervisor was and got Ms. Melton.

Ms. Melton was quite polite and sympathetic. She, however, could do nothing but commiserate. So I called John Landolfi, her supervisor, who works in the Easylink headquarters in NJ at (201) 331-4215. He, too, was quite polite. He, too, explained that he could do nothing; but he did explain that the decision had only been announced the previous Friday.

He also gave me the name and number of Donald Casey in their Marketing arena.

I believe that it was about 2:00 P.M. when I began three hours of trying to reach someone live in Mr. Casey's area at (201)331-4428. It may have been around 3:00. I continued until 5:00 P.M. Eastern; I ran up my calling-card in the hopes of reaching someone before I left on Monday morning for a week-and-a-half worktrip to western Canada.

I also tried getting the operator, of course; his voice-mail wasn't set up to ring to one. I also tried calling information. The first time I was given the number of **(201) 331-4000**. No-one answered that number, and the second time I called it my phone told me that it wasn't a real number (or was it "not a valid number"?)—a recording I'd never heard before.

Needless to say, no-one has done anything other than say "We're sorry that our salesman misled you, but maybe he didn't know."

Personally, I think that this is not a very good PR approach.

There are certain other aspects of the service that are less than stellar. When I commented to one of their help-people, Kate, that their text editor was incredibly inept and clumsy, she agreed. She then pointed out that their access software had a good editor.

When I pointed out that from about $100 (DOS) to $210 (Windows) was steep just to have an editor and mail manager, she politely explained that such was the price of not having to use their command line interpreter.

I thought it was bad enough that not using their access software added an online creation charge ($0.20 for the first 1000 characters on top of the standard transmission charge of $0.50 for the first 1000 characters).

One could always use the DOS or other editors, of course—but the documentation doesn't tell you how to upload...and it took Rick, the help person who found out how to do it for me, an hour or two to find out what the proper command was.

MCI, as I found out from calling 1 (800)444-6245 and talking with Rick Barrett, has no receiving charge for arriving Internet mail, the same sending charge, no online creation charge, and has Z-modem in addition.

I'm starting to ask myself why I'm still sticking with AT&T. At least everyone has been polite to me so far.
Earle Durboraw
EDurboraw@ATTMail.com (at least for now)

Dear Durboraw:

Well, as long as they were polite, I don't suppose real electronic mail connectivity is actually all that necessary???

I have noticed an apparently growing trend among commercial e-mail services to surcharge Internet mail. They have some very shiny rationalizations for this, and I wouldn't mind if they even worked for them. But I doubt they will. There will be many many places to get e-mail without the surcharge, and very soon from almost any BBS. I personally think they will drop them within a year, despite the very real expense of providing such service.

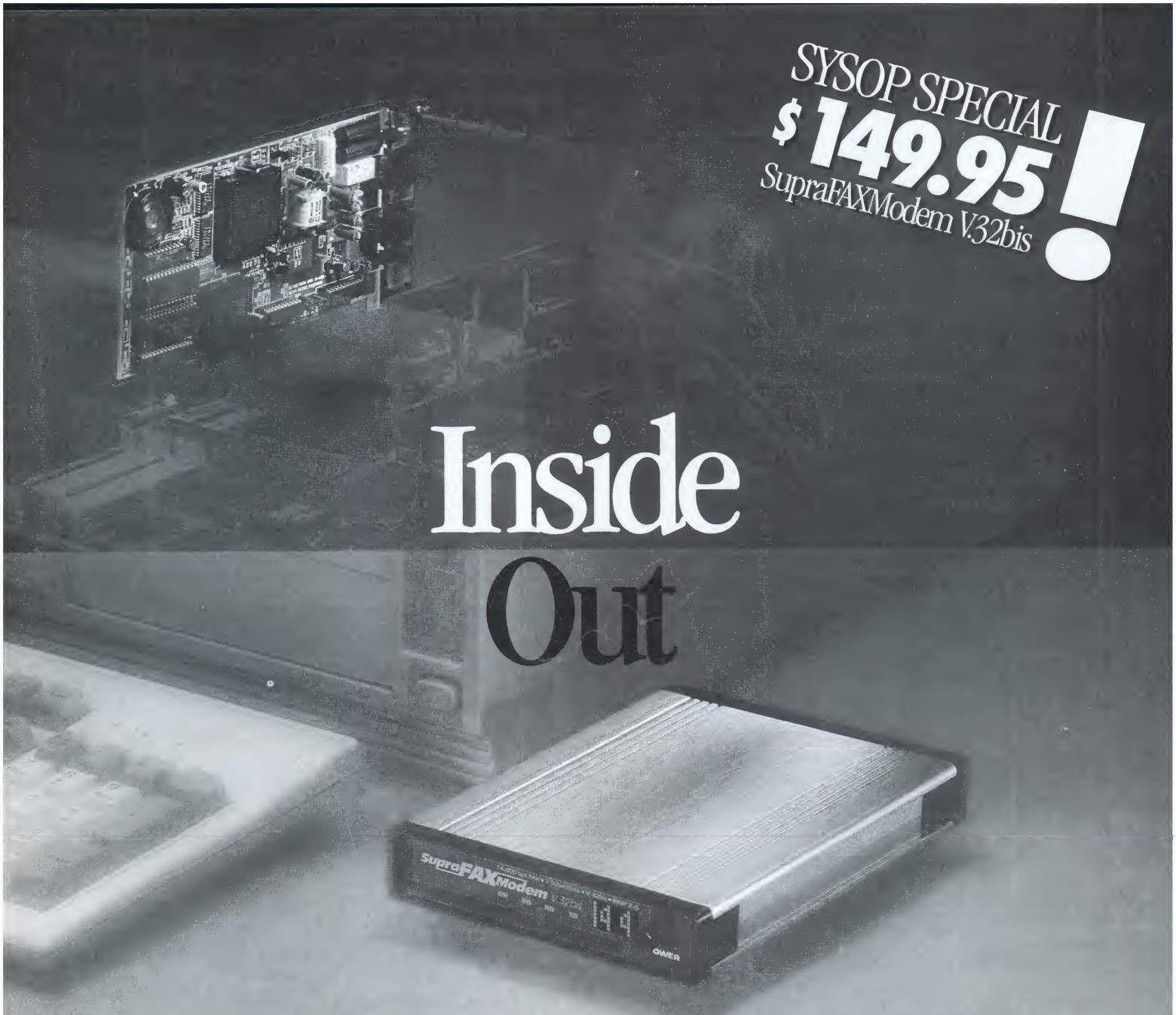
I would advise you to keep shopping. ATT Mail doesn't sound so very easy to me.

Jack Rickard

Dear Jack,

After reading your colum in the January '94 issue regarding "CyberCash", I think you've finally hit upon one of the biggest problems facing the expansion of BBSing in this country.

I am the Sysop of an Adult (did I say that?) board using a new, Windows-based Beta software called Excalibur. This software does run well enough however, even in this early stage of development, to let me enjoy the luxury of being a pay service. With over 600 users, 150 of them paying members, I have found it increasingly difficult to attract or entice new users on to the system due to the fact that I don't have a credit card merchant account. Sure, I've found ways around it, but the fact is, most users DO NOT want to send checks or money orders, or call the 900 service that I also use for membership purposes. Without the ability to offer



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the credit card acceptance, I'm making just enough money to make the payment on the computer and maybe buy a new modem every now and again. I've done some research with the members, and have concluded that in the few months I've been up and running, I've lost approximately $3000.00 in membership fees. Most people that logon want to join the system, they just insist on using a credit card.

Now here's my beef, and hear me out on this one (and if anyone from the banking or credit card industry is reading this, maybe you can explain it to me). Late at night, on television, I see advertisements for 800, 900 and 976 phone sex lines that offer Visa, Mastercard and Amex. I can pick up any adult magazine or catalogue, and in minutes charge any item in it to my credit card. I can order flowers, lobsters from Maine, oranges from Florida, all on a credit card, over the phone, with no signature required.

So what does this have to do with BBSing? - WE CAN'T GET MERCHANT ACCOUNTS! Pardon my shouting, but I am seriously annoyed at this. I've been told, among other things, that since I offer adult material on my service, I'm automatically excluded from consideration for a merchant account.

Well, aren't we politically correct! But that's not the whole story. Almost ALL BBS systems are excluded! We happen to fall into the "mail order" category, an industry that has a very high rate of loss in the credit card industry. Mail order? I don't think so. Other Sysops I know (friends, so I can't mention their names) have found convenient ways around this problem. They simply incorporate the BBS into their existing business. Unfortunately, some of us are not so lucky.

What can we do, Jack? The quality of an "information service", I believe, is directly proportional to the time and money spent on that service. Obviously, a small hobby board, with no intentions of making a profit, can be a wonderfully run and innovative system - no question about it. But what about systems that are trying to be run as businesses, with extraordinary service and quality being the ultimate goals, that simply can't get off the ground because of these idiotic policies? I would bet, and bet cold, hard cash, that the banks and credit card companies have lower losses from BBS systems than from retail stores. I don't think BBSs are "impulse purchases" that one regrets later. Most people know what they want out of an information service and actually do shop around. Not only that, but I also believe that BBSers are very LOYAL customers. Many people, myself included, stay on systems we like for a long time, often renewing our memberships on a monthly or yearly basis.

Well, that's all I wanted to say, Jack. I and fellow sysops discuss this matter ad naueseum. We don't know what to do. I'd just like to be an investor in the one company that realizes the potential for profit here.

Teleflora blew it, now maybe some other person or persons with vision will step in to take their place in this market. Maybe an article on the business side of BBSing might help, Jack. All to often, all we see are software, hardware and general board reviews. I'd like to hear from others that have the same problem. Maybe there IS something that can be done about this.

Rich Kurtz, Sysop
Consenting Adults BBS **(908) 269-8479**
consadult@aol.com
72056.3706@compuserve.com

Rich:

I sympathize with your situation. Having run down this little path with a couple of hundred bulletin board operators in the past, I can tell you that it IS possible to get a merchant account, and yes it is difficult. While, as you point out, everyone who has worked the BBS market has found that fraud and chargebacks are very low incidence in this arena, the credit card system in this country probably only still exists because of the enormous drop in interest rates in the past ten years - not reflected in current credit card interest rates you might notice. The system is a shambles.

But you're rattling around the fringe grass of this problem. Let's get closer to the cup. We need a form of workable currency online, and MC/Visa don't look enough like the solution to be viable longterm.

Jack Rickard

Dear Jack:

This letter represents a number of firsts. It is the first time I have ever written a letter to The Editor. It is also the first time I have ever attempted to send mail across the internet. I wanted to tell you that BW is great. I have been especially intrigued by the recent articles of Jim Warren's. I truly believe online access to govt. will be a powerful force in the hands of John / Jane Q. Public. Possibly revolutionary. I believe access = knowledge = power. This budding availability may provide a leveling of the playing field by decentralizing access. For too long access to Govt (beyond the tainted scraps thrown to us huddled masses by "politicians" and the media) has been a privilege of the legal/political/economic/social elite. Everyone else is supposed to decipher what is going on by what we read, hear, or see being doled out by the media. Our other primary source are those cute little form letters/updates provided by our assorted representatives about what a great job they are doing and what a tremendous effort it is. To get anything more meaningful an individual usually has to be driven, fanatical, and a bit masochistic to break through the protective crust of government. If not they will either give up or become all of the above in the process. At any rate the prospects are all very exciting.

In closing I must say this is the only magazine that I have ever habitually read all the letters to the editor in. As a new sysop I find BW is constantly a source of info and new ideas. If not new then at least exposure to what the rest of you have been doing for a long time. I had been thinking about setting up my own BBS for about a year but until about a year ago finding out what was happening in this realm was very elusive. Then I came across one of your magazines. I have been a subscriber ever since. The only drawback is that you keep exposing me to all these great possibilities that far outreach my skills and resources. Keep up the good work it is appreciated.

Bob Southwick
Fledgling Sysop
Alaska Information Cache
907-373-3205

Bob:

Thanks for the note. The electronic access to government is not, in my mind, a simple topic. Jim Warren is doing a stellar job in acting as our advocate in gaining access to government information we have every right to, and even the concept of little pea-head bureacrats marshalling tedious arguments to the contrary drives me to frenzied hair-pulling distraction. Mr. Warren, somewhat more pragmatically, is willing to wade in where others of us dare not retch, and actually do the necessary work to make it happen, and keep us informed in this area as well. It's an unusual column for a publication like Boardwatch, but I'm rather committed to it.

That said, there is a darker side to all this that concerns me. The online technologies are, as we all know, full-duplex. It swings both directions, access to government means government access to us. This alters a number of power balances that have grown in place over several hundred years, and it does so somewhat overnight in an historical context. Those "direct sources" you refer to are very motivated to manipulate your view of the world, and the lure of doing so directly and without the constant harping interference and analysis of the conventional media is a powerful one. I would predict you are going to get a LOT of information directly from your government in coming years. But I would like to see some strong countervailing sources of information coming to you with the same authority, and a very near time proximity.

One of the reasons you welcome this is that you/I/we have largely lost faith in the print and broadcast media. I view this as a direct result of their abandonment of most of the tenets of classic news reporting/journalism in favor of their own form of liberal political activism. You can't be the unbiased observer/reporter and in the same breath a tree hugger bent on eliminating poverty, war, and human misery by wishful thinking. In choosing the latter, they abdicated their role in the former, and while it took awhile, virtually everyone has by now "caught on" that they are no more trustworthy than the politicians.

I view this gradual turn of events with great melancholy, and a touch of fear. I've long been a proponent of the new communications technologies largely because they are empowering for individuals. But I've never been in danger of believing it will bring any form of utopia - just a better connected mess. If our print and broadcast media are to become just another series of political activist clubs, their abdictation leaves in its vacuumous wake an enormous concession to the power of the "bully pulpit." If the President of the United States sends you an e-mail message directly, and while he's not yet realized it, he can now with ease, you are probably going to read it. And lacking any other contextual reference, too many of you are going to believe it - jots and tittles akimbo.

I'm reassured by my peers that a whole new emerging army of online Rush Limbaugh's won't allow that to happen. I do hope in this case their view prevails, and my own is proven overly pessimistic. In the meantime, I would ask you examine your "primary sources" with a healthy dose of skepticism.

Jack Rickard

Dear Jack:

Allow me to introduce myself. My name is Gene Bixler, Sr., and I'm the SysOp of the Boy Scout Forum here on NVN. I noted that the full-page article NVN ordered was pushed back to page 98 in your publication, and that NVN was not listed as a major online service in your "Customer Service" article, where you listed Prodigy, Genie, AOL, Delphi, and Comp-u-Serve (if I'm not mistaken)...

I find it hard to believe that with all the business NVN does with Boardwatch, it would be given such poor treatment. First of all, where customer service is concerned, NVN is among the best in the business (voice of experience). The hours that our "Client Services" offices are open are more than convenient...8 am to 10 pm Central on most days...and you can always talk to someone there. Then, there are the members of NVN management that are online all of the time...always ready to give a hand when necessary. And, of course, let's not forget the Sysops, who are always more than happy to lend a hand to a customer in need. Of all the online services around, NVN is, IMHO, the best when it comes to customer service, and is certainly one of the best online services overall...I would truly hope that NVN could be treated with the respect it deserves among the elite of online services...

Gene Bixler, Sr.
headscout@NVN.com

Dear Gene:

What the hell is an NVN?

Jack Rickard
Troop 4
Cape Girardeau, Missouri

Dear Sir:

Understandably, you and your magazine are constantly searching for good and reliable advertisers for the Magazine.

It is equally true that your subscribers and readers also are looking for good and reliable advertisers among your printed pages.

However, sometimes we share problems such as the one here described.

I am a SYSOP of a small virginia BBS, the Northern Neck Bulletin Board System. Recent reading of your december 1993 Boardwatch Magazine, pages 23 and 53, showed that special modem purchase prices are available for SYSOPS. The SUPRA CORPORATION advertised their SupraFAXModem V.32, internal, for $129.95.

Needing an updated modem, I contracted their Bulletin Board ordering phone number, ordered the desired modem by giving all addressing and credit card information. Then, at the very last questioning by SUPRA, I was advised that there would be a Shipping/Handling cost of $90.00. A suite of furniture could have been delivered for less cost.

This was such a totally unreasonable S/H cost for the $129.95 modem shipment that I canceled my order. I only can consider their advertisement and stated sales costs as completely misleading and unethical, a situation you should consider unsuitable for one of your advertisers.

Enough said, but any of your readers only can consider all other advertisements as suspect in their statements.

I recommend that your bring this matter to the attention of the SUPRA Corporation and demanding their accuracy in advertising.

You have a superb magazine. There are standards to be maintained by all of us.

Sincerely,
Charles E. Brown Jr.

Dear Mr. Brown,

Upon receiving your letter we made some inquiries consisting of six phone calls. First we called the operator and got your area code. Then we called directory assistance to get your phone number. Then we called you to inquire if you were certain that the SysOp ordering program of Supra's BBS was about to charge you a $90 shipping and handling fee for ordering a single modem to be delivered within the U.S.A. Then we called Supra and spoke to Patrick Moore, the SysOp of the Supra BBS and the person who wrote and maintains the online order entry program that tried to "get you." Finally, we actually called Supra's BBS (503) 967-2444 and went through the entire order process ourselves.

Apparently, the online order entry program you were using detected a string of text in "country" field other than (case insensitive), "blank", "U.S.A.", "USA", or "US" and understandably considered your order an Overseas/International one.

According to Supra the shipping and handling fees for their SysOp modem program (which are also posted on their BBS) are as follows:

Continental USA: Shipment by UPS Ground - $8., shipment by UPS Blue (2-day Air) - $14, shipment UPS Red (Overnight) - $30. For your information, for two modems the shipping and handling costs are $11, $21, and $40. For three modems it's $15, $29, and $47. For four modems it's $19, $38, and $54. For five modems it's $23, $38, and $62. SysOps are permitted to purchase one modem per phone line being used for their BBS upon verification. If anyone wants the shipping and handling costs for more than five modems, Supra suggests they call (800) 727-8772.

For Overseas/International (other than the United States and Canada) there is a $90 shipping and handling fee for the first modem. $110 for two modems, $130 for three modems, and $20 for each additional modem thereafter.

For Canadian orders: Ground shipments of the first modem are $15. Two modems cost $18, three modems $20, four modems $22, five modems $25. Air shipments (UPS Air Express 1-3 day delivery) $30 for the first modem, $35 for two modems, $39 for three modems, $44 for four modems, $48 for five modems. All prices mentioned are U.S. dollars not Canadian and they do NOT include any brokerage fees or custom duties which are the responsibility of the consignee.

Maybe Supra should take out another full page ad in Boardwatch with a listing of just their shipping and handling prices for the SysOp program. But if they did, we imagine their SysOp price would have to be a little higher.

Being a big time online magazine muckety-muck we are most privledged to be afforded a toll-free 800 number hotline to Supra where we can find out all these kinds of things. I often wish they would make this 800 toll free number to mere Peons - say in 14 point bold face type in the advertisement you took exception to, but I guess you have to be a stick.

Boardwatch certainly is constantly searching for good and reliable advertisers and within minutes of receiving your letter we went to work looking into it. We would have gotten the answers we needed sooner but one of the parties failed to give us their number (YOU). We hope you will find this information useful. Whew!

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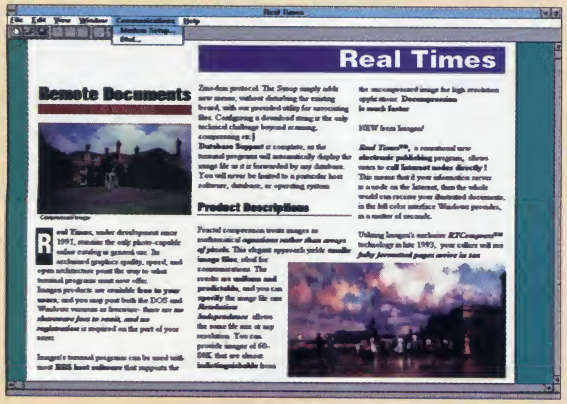

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Jim Thompson, Boardwatch Magazine

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Letters to the Editor

Boardwatch Magazine
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Littleton Co 80123

Modem Watch

BBS Discount Prices

Special Reduced Prices for BBS Operators

VENDOR	MODEL	LIST	SYSOP	BBS	VOICE	FAX
AT&T Paradyne	Dataport 14.4/Fax	$329	$180	813-532-5254	813-530-8276	813-530-2398
ATI Technologies	14400 ETC-E	$219	$149	905-764-9404	905-882-2600	905-882-2620
Cardinal Technologies	9600V42 V.32	$349	$219	717-293-3074	717-293-3000	717-293-3104
Cardinal Technologies	14400V42 V.32bis	$449	$249	717-293-3074	717-293-3000	717-293-3104
Computer Peripherals	Viva 9624e V.32	$349	$249	805-499-9646	805-499-5751	805-498-8306
Digicom Systems	ScoutPlus V.32/Fax	$289	$168	408-262-1412	408-262-1277	408-262-1390
Digicom Systems	MacScoutPlusV.32bis/Fax	$299	$178	408-262-1412	408-262-1277	408-262-1390
Digicom Systems	Connection 96+ V.32bis	$199	$139	408-262-1412	408-262-1277	408-262-1390
Digicom Systems	ScoutPlusTerbo V.32 Terbo/Fax	$329	$198	408-262-1412	408-262-1277	408-262-1390
Galaxy Networks	UFO V.32bis	$999	$299	No BBS	818-998-7851	818-998-1758
GVC Technologies	FM-9696/144V V.32bis	$689	$413	201-579-2380	201-579-3630	201-579-2702
GVC Technologies	SM-96V V.32	$599	$329	201-579-2380	201-579-3630	201-579-2702
Hayes Microcomputer	Optima 288 V.FC + Fax	$579	$288	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	Ultra 144 V.32bis	$999	$249	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	Optima 144+Fax	$519	$179	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	ISDN System Adapter	$1199	$450	404-446-6336	404-840-9200	404-449-0087
Image Communications	Twincomm 9600 V.32	$299	$279	No BBS	201-935-8880	201-935-6548
Intel Corporation	14.4EX V.32bis	$549	$269	503-645-6275	503-629-7000	503-228-9707
Intel Corporation	9600EX V.32	$599	$299	503-645-6275	503-629-7000	503-228-9707
Microcom	DeskPorte FAST	$499	$249	617-255-1125	617-551-1000	617-551-1988
Microcom	TravelPorte FAST	$499	$249	617-255-1125	617-551-1000	617-551-1988
Multi-Tech Systems	MT932BA V.32	$869	$435	612-785-9875	612-785-3500	612-785-9874
Multi-Tech Systems	MT1432BA V.32bis	$899	$450	612-785-9875	612-785-3500	612-785-9874
Practical Peripherals	PM14400FXSA V.32bis	$549	$250	805-496-4445	805-497-4774	805-374-7202
Practical Peripherals	PM14400FXMT V.32bis	$299	$155	805-496-4445	805-497-4774	805-374-7202
Supra Corporation	SupraFax V.32bis	$399	$149	503-967-2444	503-967-2400	503-967-2401
Telebit Corporation	T3000 V.32bis	$949	$399	408-745-3861	408-734-4333	408-734-3333
Telebit Corporation	WorldBlazer	$1049	$429	408-745-3861	408-734-4333	408-734-3333
Telebit Corporation	QBlazer V.32bis	$549	$299	408-745-3861	408-734-4333	408-734-3333
U.S. Robotics	Courier DS V.32 terbo Fax	$1295	$399	708-982-5092	708-982-5010	708-982-0823
U.S. Robotics	Courier V.32 terboFax	$695	$299	708-982-5092	708-982-5010	708-982-0823
Ven-Tel	EC96 V.32	$699	$439	408-922-0988	408-436-7400	408-436-7451
ZyXEL	U-1496 +V.32bis	$749	$499	714-693-0762	714-693-0804	714-693-0705
ZyXEL	U-1496E+V.32bis	$499	$349	714-693-0762	714-693-0804	714-693-0705
ZyXEL	U-1496E V.32bis	$349	$249	714-693-0762	714-693-0804	714-693-0705
Zoom Telephonics	VFX V.32bis/Fax Int	$179	$99	617-423-3733	617-423-1072	617-423-9231
Zoom Telephonics	VFX V.32bis/Fax	$199	$119	617-423-3733	617-423-1072	617-423-9231
Zoom Telephonics	VFX V.32bis/24K/Fax	$269	$119	617-423-3733	617-423-1072	617-423-9231
Zoom Telephonics	VFX V.32bis/28K/Fax	$349	$159	617-423-3733	617-423-1072	617-423-9231

The above quoted prices are for purchase by qualified Sysops only. Public purchases are retail prices, and are not available through Boardwatch Magazine.

XIRCOM POCKET ETHERNET *ADAPTER*

Laptop computers have gained sway to the point that many personal computer users can now sport a 486 Windows machine under their arm with hundreds of MB of hard disk storage and color displays - and use it as their only computer. But in many situations, it is NOT the only computer. And transferring data between the laptop and the home PC or office LAN has taken on some of the aspects of all good sports and games of diversion, it can be played at many levels, and you never do quite master it.

The Xircom Pocket Ethernet Adapter III connects to a laptop parallel port, and allows you to plug that laptop into your ethernet LAN. The model **PE3-10BT** we played with offered a 10BaseT connection and worked flawlessly. The **PE3-10BC** model features both 10BaseT and thin coax BNC connectors.

This little pocket puck sported several features we found endearing. First, it is powered by the usual AC adapter. But optionally, it has a little cable they call the Phantom Power Cable that will plug into the MOUSE port of a laptop to get power directly from the laptop unit. You don't lose the mouse either as it can then plug into the power cable.

The unit also features a dashing tomato red stripe around the body of the unit. It isn't precisely a fashion statement however. It's a rubberized tractor tread. When you twist this band, it in turn drives the two port connector screws. In this way, you can plug it into the parallel port and give it a few twists to securely attach it. No more little screw drivers.

The Xircom comes with a diskette full of drivers for Novell LAN's, Artisoft LANtastic, DECnet-DOS, DEC PCSA, NDIS, and ODI., and packet drivers. The unit lists for **$349**. Xircom Corporate, 26025 Mureau Road, Calabasas, CA 91302; **(818)878-7600** voice; **(818)878-7630** fax; **(818)878-7618** BBS. On CompuServe **GO XIRCOM.**

Xircom PE3-10BT Pocket Ethernet Adapter III

EFF OPENS BBS MEMBERSHIP

The Electronic Frontier Foundation, founded in July of 1990 by John Perry Barlow and Mitch Kapor, has been one of the few effective lobbying organizations in Washington promoting free speech, the rights of individuals, and privacy in the online millieu. This year, crucially important legislation regarding the National Information Infrastructure, including a milestone ***Communications Act of 1994*** that will allow telephone companies into cable tv, allow local RBOC to provide long distance service, and generally revolutionize our communications infrastructure, the BBS community badly needs some representation before the various committees and hearings held on these topics. Unfortunately, there is no organization specifically for bulletin boards to do so. In many ways, the EFF has stepped into that vacuum and fairly effectively championed the BBS cause.

EFF's history of service to the online community began in the wake of the Operation Sun Devil BBS seizures in 1990. Co-founders Mitch Kapor and John Perry Barlow established EFF to offer the combined legal and technical knowledge that was necessary to protect the rights of online users. Their first major legal action was to help Steve Jackson, Steve Jackson Games, and users of the company's BBS, Illuminati, sue the United States Secret Service for seizing the BBS and other Steve Jackson Games computer equipment. The case was heard in a federal district court in Austin, Texas, last March, where the judge publicly reprimanded the Secret Service Agent in charge of the raid for the serious shortcomings in the Service's investigation.

But EFF has done more than help users litigate cases after things have gone wrong. They have worked to ensure that laws and regulations treat users of high technology fairly. They've worked with Congress to develop new communications legislation that includes provisions supporting universal access and protecting free speech. Rep. Edward Markey (D-MA) recently introduced a bill for the National Information Infrastructure (NII) that incorporates the free speech and universal access pieces of EFF's Open Platform proposal. EFF submitted comments to the U.S. Sentencing Commission expressing that its proposed sentencing guideline for computer intruders was too harsh and publicized the need for other groups to do the same. The Commission amended its latest proposed guidelines to reflect EFF's suggestions. EFF worked to guarantee that users can protect the privacy of their communications with the encryption technology of their choice. EFF helped Internet users participate in the government process by collecting their electronic comments opposing the Administration's proposed encryption standard and delivering the comments to the agency putting forth the proposal. This resulted in a very large showing of opposition to the government's Clipper Chip proposal. EFF constantly scans the legislative horizon for important issues for users of new technologies.

EFF's efforts on behalf of online users have been effective. But ultimately success lies in ensuring that individuals are empowered through the use of technology. To encourage

broad-based participation by all current and potential users at every level — federal, state and local, and judicial, legislative and administrative — EFF is committed to educating SysOps and users about the debates and issues surrounding online communications and providing a mechanism for making views heard. EFF regularly posts important legislative and judicial news and updates on their policy work to the Usenet group comp.org.eff.news, publishes an online newsletter entitled EFFector Online, and maintains several electronic archives on the Internet.

The real game in Washington revolves around numbers - numbers of warm bodies. "How many voters do you represent?" is a question implicit in virtually every conversation. The EFF organization probably does need a wider formal "constituency", or membership - basically to lay claim to numerical strength when speaking before congress etc.

For these reasons, we were most pleased to learn they are more formally taking on the task of representing the BBS community. They are opening a "BBS Member" classification in the EFF, establishing an EFF Supporting BBS List, and establishing their own **OUTPOST - EFF** BBS at **(202)638-6120.**

In conjunction with the opening of the Outpost BBS, EFF is offering SysOps special discounted membership rates. For a **$10**, tax-deductible membership donation, each SysOp member will receive the regular EFF membership benefits of their quarterly hardcopy newsletter, bi-weekly electronic newsletter, periodic online action alerts and their newest EFF-supporting BBS list. In addition, SysOp members will receive diskettes containing EFF publications for posting to their BBSs and can have their board included on the BBS list. SysOp members will be able to renew their membership at the discounted rate if, over the course of the year, they recruit ten new EFF members. Member SysOps are encouraged to post a bulletin announcing their membership and to participate in the EFF network, if possible.

EFF's BBS, based in Washington, DC, will feature an extensive file selection, private and conference mail and QWK and FTN formatted links to Usenet news and the Internet. The multi-node board currently has four high speed lines for dial-up and runs Synchonet software on a DOS 486 machine. Resources include a full selection of EFF's legal and policy documents mirrored from the EFF ftp site, encryption information, Internet networking tools and other related materials. In addition, Outpost is the host system for several conferences, and the latest issues of EFFector Online are automatically distributed to SysOps around the globe every two weeks.

According to Sarah Simpson, of the EFF, "EFF has its roots in the BBS community, and it seemed an obvious step for us to set up a BBS as a direct link to the millions of BBS users nationwide. The lack of sufficient resources and expertise had previously limited our ability to provide this link, but the arrival of Stanton McCandlish, EFF Online Activist and SysOp changed all that."

Stanton McCandlish came to EFF in September of 1993. Stanton, a small press publisher and long-time computer user, turned his electronic journal into an online coffee klatch on a whim one day, only to soon find a teeming virtual community flourishing on his new BBS. Stanton founded an independent, international and unmoderated network — IndraNet — in January of 1993.

Meanwhile, his free and accessible Noise in the Void DataCenter BBS became a host to a great deal of cryptographic software, BBS lists, information from the Internet for non-netted BBS users and an active online society focused on issues of civil liberties, online access and privacy. When the Administration announced its plans to release Clipper, the "Wiretap Chip," he turned to direct online activism, disseminating information about the Clipper threat to IndraNet, FidoNet, and many other BBS networks. In September, eager to do even more to spread the word on important issues of civil liberties and telecommunications policy, Stanton moved NITV-DC from Albuquerque, New Mexico, to Washington, DC, to accept his current position with EFF, an organization he'd been enthusiastically supporting since its inception.

For more information on the BBS Membership program, contact **ssimpson@eff.org** or dial the **Outpost - EFF BBS** at **(202)638-6120**. We'll publish a list of EFF supporting bulletin boards in a future issue of ***Boardwatch Magazine***. Electronic Frontier Foundation, 1001 G Street, NW, Suite 950 East, Washington, DC 20001; **(202)347-5400** voice; **(202)393-5509** fax.

GTEK BBS550 MULTIPORT SERIAL CARD

The IBM PC originally supported two serial ports - one on hardware interrupt IRQ 4 and one on IRQ3 termed COM1 and COM2 respectively. Over time, a sort of general convention developed noting COM3 and COM4 as well.

But in the BBS community, to service multiple telephone lines requires the ability to connect multiple modems, and each modem does still require a serial port. Several vendors have devised schemes for supporting multiple serial ports on the handful of available IRQ channels. Perhaps the most famous is Digiboard.

That said, an oddity has developed. You can purchase an ordinary serial port card for as little as $19 featuring two ports. That would make an 8-port card run about $160, and since they still use some common components etc. hopefully something less than that. Actually no. Most 8-port serial cards have been available for more like $450-$600. You pay a premium for putting 8 on a card.

James Meisler, director of engineering at GTEK, Inc. encountered the BBS community at the Online Networking Exposition and BBS Convention (ONE BBSCON) last August. The company has manufactured serial port cards for over 7 years. As a result of his conversations with BBS operators, the company rolled out a new **BBS550** eight-port serial card with some interesting features.

"The BBS550 is a direct result of my discussions and interactions with hundreds of Sysops at ONE BBSCON convention in Colorado Springs. Sysops wanted a board that came standard with 16550 UARTS. They wanted flexible addressing. Some wanted shared interrupts for TBBS, some wanted individual interrupts for pack-

sysop membership

contact information

Name:

BBS Name:

Mailing Address:

Voice Telephone:

Internet E-mail:

payment method

I want to support EFF at the following level:

Sysop $10 • Regular $40 • Other $

☐ Enclosed is a check payable to the Electronic Frontier Foundation

☐ Please charge my:

MasterCard • Visa • AmEx

Number:

Expiration Date:

Signature:

bbs directory

Sysop:

Voice/Support Numbers:

Fax Number:

Mailing Address:

Network Addresses:

Data Phone Numbers:

Modem Type/Speed/Protocols:

BBS Software:

Operating System:

Number of dialup lines/nodes:

Internet Connected?: •mail/news •full connectivity

Focus/Special Interests:

Special Access Requirements:

Provides: •text files •shareware •graphics •networked conferences
•doors •networked e-mail •special pay-only services

Fees:

mail to

Sysop Members, EFF, 1001 G Street, NW, Suite 950 East, Washington, DC 20001

IF YOU HAD THREE WISHES,

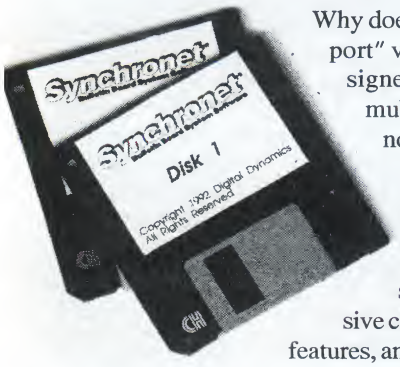
Take a close look and you'll see why so many sysops are switching to the Synchronet Multinode Bulletin Board System. For one, message networking is second nature for Synchronet. Not only does Synchronet support FidoNet, QWK, and PostLink (RIME) message networks, but network considerations are integrated into every aspect of the BBS. Synchronet's hierarchical message and file areas are the perfect organizational solution for today's multi-network message and CD-ROM file areas. Synchronet has many built in features that other packages either don't offer or require an add on, such as multichannel and private key by key chat, offline reader features, and multiuser CD-ROM support. First time operators appreciate Synchronet's elegant menu driven configuration, while experienced sysops revel in its wealth of options and flexibility. The list goes on and on. But don't take our word for it, check out the competition first. With Synchronet, you won't need three wishes.

Feature and Price Comparison for an 8 node BBS on a single 486 PC

	Synchronet	Wildcat!IM	PCBoard/M	MajorBBS	TBBS
Node license	$199	$799	$440	$508	$895
Multitasker	$200	$200	$200	Yes	Yes
8 port I/O	$300	$800	$995	$575	$500
Multinode chat	Yes	Yes	Yes	Yes	Yes
Multichannel chat	Yes	Extra	No	Yes	Yes
Private key by key chat	Yes	No	No	Yes	Yes
Offline reader support	Yes	Yes	Extra	$199	$99
QWK networking	Yes	Yes	Extra	No	Yes
FidoNet import/export	Yes	Yes	Yes	Yes	Yes
Send/receive NetMail	Yes	Yes	No	No	Yes
PostLink (RIME) support	Yes	Extra	Yes	Extra	No
RIPscrip GUI support	Yes	No	No	Extra	No
Novell/DOS LAN support	Yes	Yes	Yes	Yes	No
976/900 billing support	Yes	No	No	Extra	Extra
Real-time node activity alerts	Yes	No	No	Yes	Yes
Enhanced CD-ROM support	Yes	Yes	Yes	Extra	Extra
Multiuser SDK	Yes	No	Extra	Extra	Extra
Incoming FAX support	Yes	No	No	No	No
Chat between doors	Yes	No	No	Yes	No
Bidirectional file transfers	Yes	Yes	Yes	No	No
Multiple user command sets	Yes	No	No	No	No
Supports DOS doors	6 types	1 type	3 types	No	No
Hierarchical msg & file areas	Yes	No	No	No	No
External transfer protocols	Yes	Yes	Yes	No	No
Total price	**$699**	**$1799**	**$1635**	**$1282**	**$1494**

Prices do not include CPU or modems. Features and prices compiled from vendor supplied information 2/93, are subject to change without notification. Wildcat!IM, PCBoard/M, MajorBBS, TBBS, QWK, FidoNet, PostLink, RIME, RIPscrip, Novell, and DOS are trademarks or their respective companies. Commercial or Shareware Toss/Scan utilities are required for some message network technologies.

YOU COULD TOSS THE OTHER TWO.



Why doesn't Synchronet have a special "multiport" version? Because Synchronet was designed from the ground up as a high-speed multinode BBS capable of running up to 10 nodes on a single 486. It's advanced interrupt driven output design combined with DESQview optimizations maximize CPU utilization, allowing Synchronet to out perform other systems running special "multiport" versions on expensive coprocessed I/O cards. For performance, features, and value, nobody beats Synchronet.

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Multinode Bulletin Board System Software

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16 Node License	$ 199
250 Node License	$ 399
Multiuser SDK	FREE

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GTEK BBS550 Multiport Serial Card

ages like Wildcat!, and still others wanted no interrupts for software like MajorBBS. Sysops wanted full 10-conductor modem support, AT style interrupts and cables that they can actually use instead of 12-inch or 18-inch octopus style cables."

The result was the **BBS550** - arguably the most flexible serial card ever manufactured. The BBS550 claims to support EVERY BBS package with the exception of those that specifically require an intelligent serial port card.

The unit features 8-ports provided by a pair of Startech **ST16C554CJ** UARTS. These are surface mount chips that each provide four 16550 UART channels in a low power CMOS package. The company claims a maximum data rate of 460,830 bits per second per channel.

The card comes configured for all 8 ports sharing IRQ3, but you can change this to move all eight ports to IRQ 4, 5, 7, or 2. Alternatively, you can give EACH port it's own IRQ, or even set it to where NO ports use any IRQ's at all. You also have very flexible control over the port addresses. In this way, you can use four ports as normal COM1-COM4, or configure them as you like to work with almost any BBS software available.

Up to eight of these cards can be ganged together in a single PC chassis for up to 64 ports total. This assumes you have 8 slots available on your PC motherboard. You can even bank all 64 ports on a SINGLE interrupt of you like.

Perhaps the most unusual item about this card is the cabling. Most serial cards use a fragile and expensive 100-pin connector with a cable that plugs into this and then breaks out to a junction box or a series of individual RS-232C connectors. The BBS550 sports RJ-45 modular telephone connector jacks. These 10 conductor modular connectors are appearing on more and more devices and we like them. Unfortunately, if you stack 8 of them along a card edge, the connectors take up more room physically than you have card. So GTEK put SIX on the card edge, and two more on the BACK edge of the card. You get a card slot plate with two holes in it, and cables that run from the two back connectors to the plate. This rather obviates the possibility of really putting eight of these cards in a PC it would appear. But the connectors are sturdy, and it makes it very easy to snap in another serial cable.

Actually MOST serial port cards don't include any cabling of useful length in the purchase price, and some don't include cabling AT ALL in the purchase price. You often find out later that to actually use the card, you have to cough up another $100 or so for serial cables if you want to actually connect it to modems. The GTEK card includes all eight cables necessary, in a six-foot length. Each cable sports the male part of the RJ-45 modular connector on one end, and a standard RS-232C connector on the modem end.

The **GTEK BBS550** carries a list price of **$395**, includes cables, and represents the most flexible serial card we've ever reviewed. You can buy one of these cards, and literally change BBS software every other month for years without having to go to a different serial port scheme. Actually GTEK DID go through three different BBS packages on their own system and are aware of the challenges. The 1 year warranty would be more reassuring at a longer period. Gtek, Inc., 399 Highway 90, PO Box 2310, Bay St. Louis, MS 39521; **(800)282-4835** voice; **(601)467-8048** international; (601)467-0935 fax; **(601)467-0029** BBS.

ONE BBSCON TO HOST SUMMER SHAREWARE SEMINAR

Ziff-Davis Interactive announced that it will hold this year's **Summer Shareware Seminar** concurrently with the **Online Networking Exposition and BBS Convention - ONE BBSCON,** a leading trade show dedicated exclusively to the online community. 3500-5000 people are expected to attend ONE BBSCON and the Summer Shareware Seminar in Atlanta this August 17-21.

The Summer Shareware Seminar is an annual gathering of hundreds of shareware authors, who meet to learn more about the business of writing, distributing and selling shareware. ONE BBSCON is hosted by ONE, Inc. and is the premier event exclusively serving the online community. It has grown considerably every year that is has been held, reflecting the dramatic growth of online users.

"With this merger, for the first time shareware authors and distributors will be brought together under one roof," said Jack Rickard, editor of Boardwatch and chairman of ONE BBSCON. "ONE BBSCON is dedicated to recognizing growth and innovation in the online community, and the Summer Shareware Seminar recognizes the same qualities in the shareware community. We see it as a perfect fit."

"Holding the Summer Shareware Seminar as part of ONE BBSCON helps both the shareware and online communities," said David Shnaider, vice president of Ziff-Davis Interactive. "Today, shareware is distributed through bulletin boards, online services and the Internet — and that will grow dramatically as the information superhighway grows. This event lets shareware authors contact the people who can give their software the widest distribution and publicity possible."

Because these shows have traditionally been held so close together, many attendees were forced to choose to attend only one of the two. By bringing together the two shows this year,

people will be able to easily attend both.

ONE BBSCON and The Summer Shareware Seminar(SSS) will be held August 17-21 in Atlanta, GA at the Atlanta Market Center Inforum and Marriot Marquis Hotel. One registration fee provides access to all ONE BBSCON and Summer Shareware Seminar sessions and events, and includes lunch each day. Registration is **$175** if paid before May 1, **$250** before August 1 and **$325** after August 1. Those interested in registering for ONE BBSCON and the Summer Shareware Seminar may call ONE, Inc. at **303-693-5253**.

ZDI's major product is ZiffNet, which provides comprehensive information on buying, using, supporting and understanding personal computers. ZiffNet is available through CompuServe, PRODIGY, AppleLink and eWorld. ZDI also distributes shareware via Public Brand Software, a disk vendor.

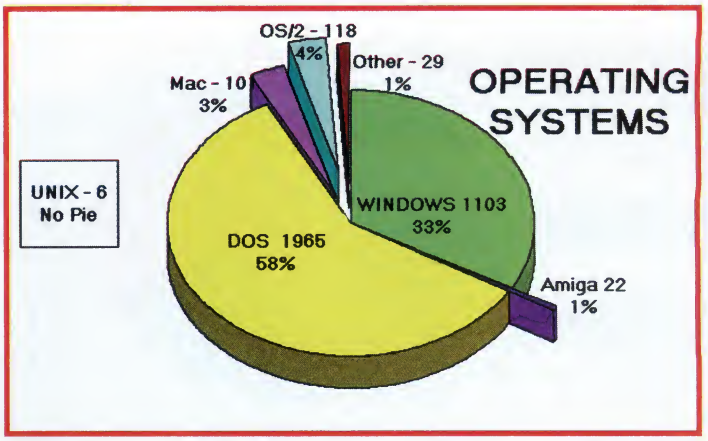
ZDI just announced a new product with the working name of Interchange, that is both an online information service for professionals and others with a serious interest in computing, and a next-generation publishing platform that gives publishers new opportunities to develop and reach markets electronically.

For more info regarding the SSS, contact: Tom Barrett at ZDI: **(617)252-5127** voice or **72241.2171@compuserve.com**

BOARDWATCH 100 READERS' CHOICE CONTEST - PRELIMINARY RESULTS

Boardwatch Magazine is again sponsoring the Boardwatch 100 Reader's Choice Contest. This annual contest is open from January 1 to June 30 each year, when thousands of BBS callers tally in with their nominations for the Top 100 BBS list. This year's contest features some of the finest modem hardware prizes we've ever offered, largely due to the largesse of Hayes Microcomputer Products, U.S. Robotics, and ZyXEL USA. These top-of-the-line high-speed modems will be awarded in a random drawing of the ballots received.

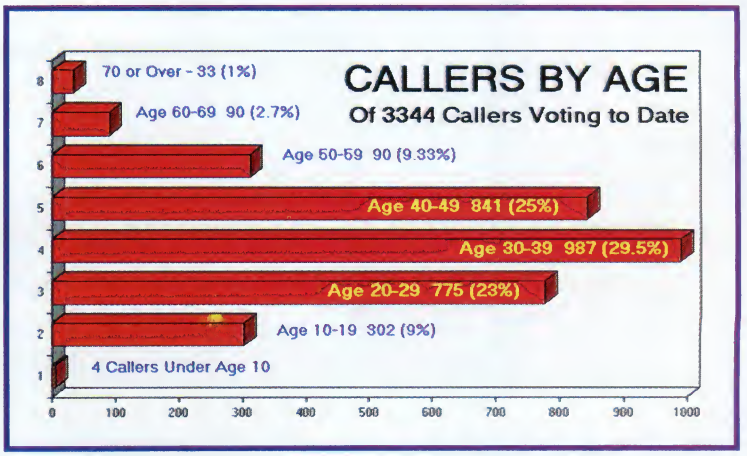
One of the things this contest provides is an interesting data set depicting the makeup of the BBS caller population. We don't collect this for any clandestine or nefarious purpose, but rather to get a snapshot of the world of BBS callers. And each year at about this time we publish a quick look at the early returns. Since this survey is made up entirely from those who have "volunteered" themselves via ballot, it lacks a bit in statistical credibility, and we would calculate the margin for error somewhere in the neighborhood of plus or minus 1500%. That said, it probably provides as good a number set as is available, and our readers and the contestants themselves enjoy a peek at the totals.

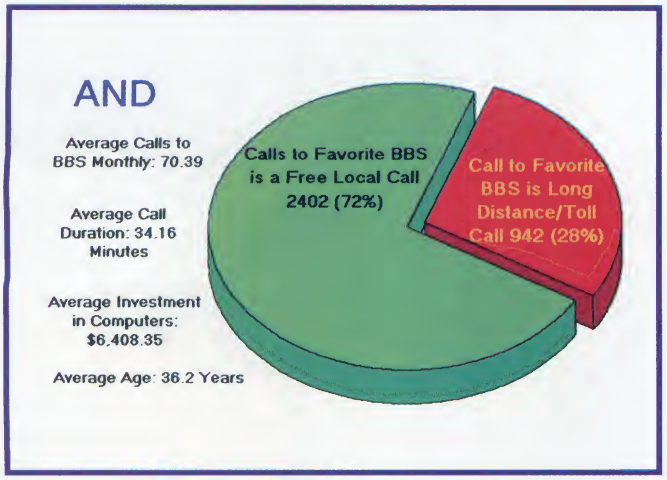


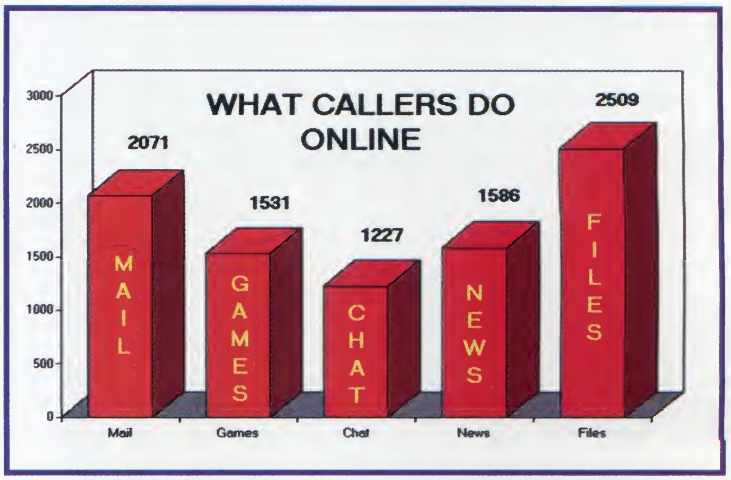
As of February 15, we had actually received a little under 6,000 ballots. Unfortunately, we're a little backlogged on the mountainous data entry task - complicated further by our somewhat grandiose plans for the questionnaire. The fax machine never stops, but by that date we had some 3,344 ballots safely held in the database.

We asked a number of questions this year on the ballot, some of them for the first time. Last year, for example, we asked if you used Windows and some 57% responded in the affirmative. This year, we asked you to indicate your operating system. DOS was the big time winner here with 1965 yea's for a 59% majority. Windows actually garnered 1103 ballots for a 33% share. We suspect we may have asked the wrong question. It would be interesting to learn if the 57% had moved from last year. But it is also interesting to contrast last year's 57% with this year's 33%, after a strong year of Windows sales and hoorah, when the question of operating system is rephrased. It could be that many consider Windows an application or manager running on top of DOS - the operating system. More likely, many of you are much like me. DOS is the operating system, and yes, if asked, I do use Windows - increasingly.

OS/2 made a surpisingly strong showing with 118 ballots. It was a surprise in that it beat out the quickly flagging Macintosh platform. We had strong indication just a year or so ago of about a 7% population online of Macintosh users. It would appear from this survey to have dropped somewhat precipitously to 3%. The Amiga community, with a very vocal group of nearly a dozen regularly outraged sysops who take us to task for not covering this area more comprehensively, mustered an astounding 22 ballots for essentially no percents of any kind. We continue to await the firestorm of change brought by the coming wind of the Amigadumb hordes as they sweep

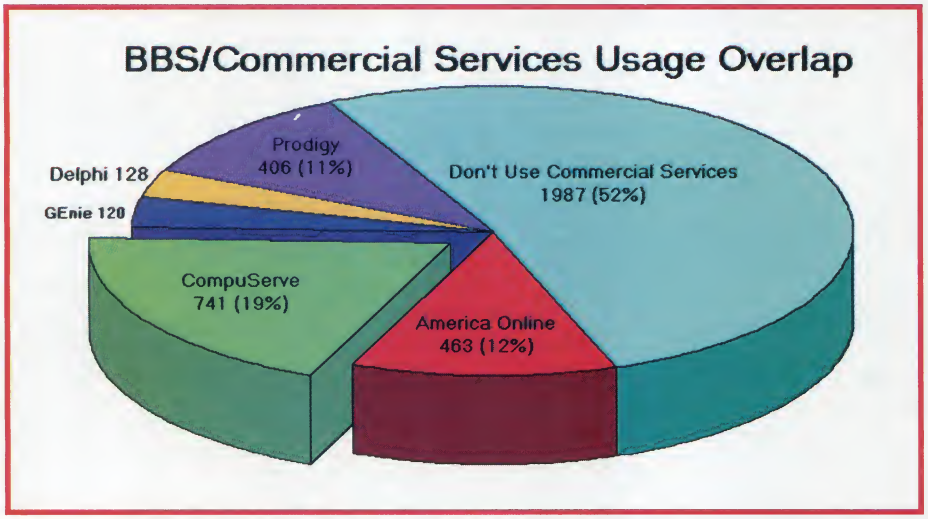


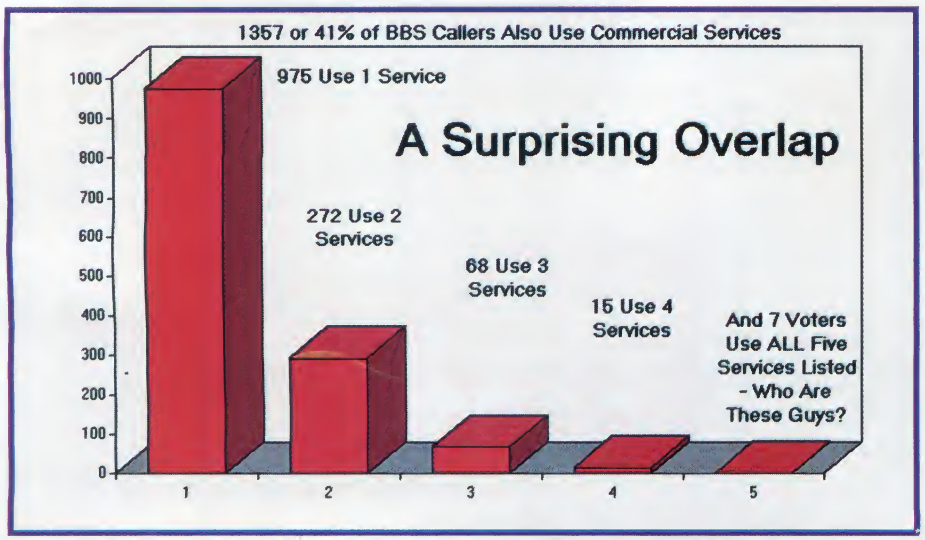




across computerville, levelling all that stands before them. The UNIX community did cough 6 ballots, but this is not indicative, as the act of making a decision on balloting and voting seriously limits the options and choices available, and so restricts the power of the operating system unnecessarily. The six we did receive were all filled out completely differently, and not particularly close to any of the blanks we provided. I understand a working group will be convened.

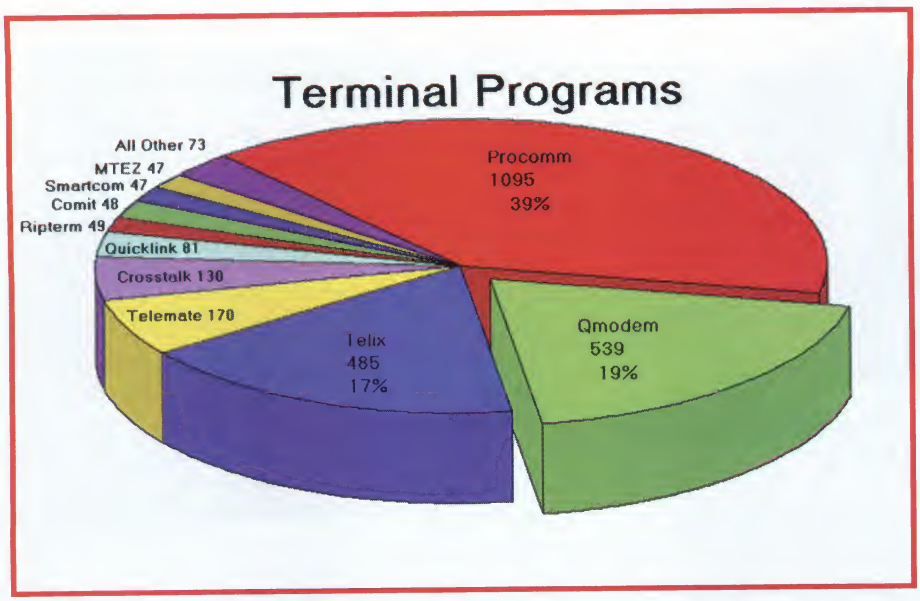
The average age of a BBS caller dropped nearly two years to 36.2. The voters indicated they make some 70.39 calls monthly on average - a very active group of online aficionados, with an average call duration of 34.16 minutes. Since some 942 or 28% of them indicated that a call to the BBS they nominate as their favorite required a long distance or toll call, this would indicate a pretty heavy flow of ducats to the long distance companies.



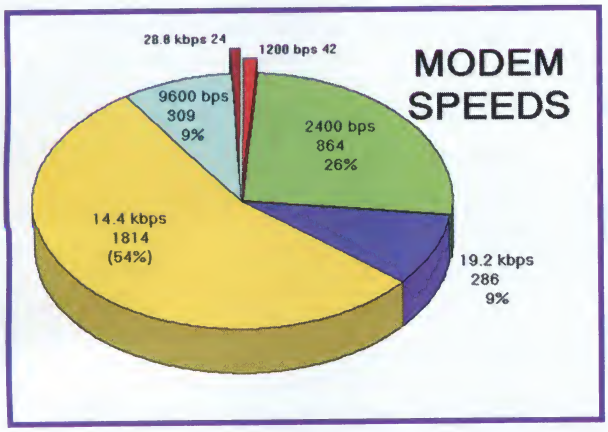


Another relatively new question we asked regarded the caller's total investment in their computer system. I was a little uncomfortable asking this, and now that we know, I'm not sure why we wanted to know. I suppose it was to gage how serious people were about this little area of their lives. They seem to average about $64087.35 in serious. Notable mostly in that you could easily pick up a computer and modem for $700-$800 these days.

One of the most interesting question we asked, I think, is whether or not the caller also had accounts on and used a series of five popular if pricey commercial networks such as CompuServe, Prodigy, America Online, Delphi, and GEnie - check all that apply. We had never seen anything depicting the overlap between BBS callers and subscribers to the larger services, and we wanted a peek. If this "factor" of commonality became a known thing, a number of ways to check one set of numbers from one industry group against a second set from another origin becomes plausible. But we were surprised to learn that some 1356 callers - nearly 41% do. This is much higher than we expected. Even better, it would appear that some of them are on more than one such service. Indeed, 7 callers claimed to be on all five online services.

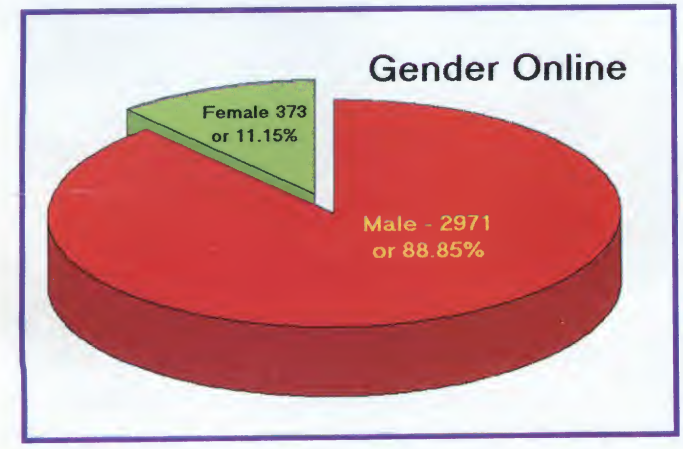


CompuServe leads the pack with some 741 subscribers from among our test group. AOL and Prodigy are pretty much going head-to-head at 463 and 406 each. We were also surprised to see Delphi, traditionally thought of as a much smaller service, edge out the much larger GEnie service.



We also tried to take a wag at what people do online. A series of checkboxes next to what you think they do is not very good surveying practice. But we did it that way. File Downloading certainly led the pack with some 2509 people claiming that as their raison d'etre. Mail came in second at some 2071, With games, chat, and news trailing at 1531, 1227, and 1586 respectively. It would appear that file sucking and e-mail are still pretty big in BBSland.

On terminal programs, no surprises among the big three - Procomm, Qmodem, and Telix in that traditional order. But we saw a surprising number of Crosstalk users with 130 ballots from that quarter. They have never made any significant showing in previous surveys. Ripterm made the chart at 49 and Hayes' Smartcom showed up as well. Quicklink actually came in respectably. This software comes packaged with about three gadzillion different brands of modems - a post previously held by a program titled Bitcom. Our thanks to Quicklink, actually a pretty serviceable little program, for driving the wooden stake through the heart of Bitcom once and for all.



The ladies not only haven't made up much ground, but may well have lost some. With some 373 voters giving all appearances of being of the feminine persuasion, this constitutes some 11% of the total, slightly off from previous years. One of the topics gaining heat in both book publishing and the general press is finding that special someone online ala Romancing the Phone. We fear the ratios of reality may pose a problem here.

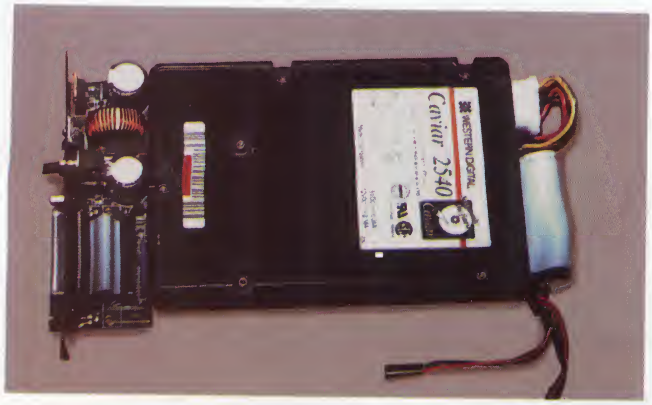
In any event, the Top 100 BBS list resulting from this contest will be announced at the ONE BBSCON in Atlanta August 17-21, 1994 along with the drawings for modems from among the voters.

PORTABLE IDE HARD DISK CONNECTS INSTANTLY TO PARALLEL PORT

by Bobby Atkinson

Plugngo is an external hard disk drive that connects to IBM PCs and compatibles through the computer's parallel port. Uniquely, it's also a $159 do-it-yourself kit to make any stock 3.5 inch hard drive into a portable drive system. The unit was intended to add another hard drive on systems that have run out of space internally. However, I've noticed that when people see it in use they immediately start thinking of other things to use it for, myself included.

Originally I bought the Plugngo to aid in service calls, when doing anything with a hard disk that might cause data loss a fast copy of the customers data is good practice. The operative word here is "fast". A portable tape drive just isn't fast enough to allow a complete copy of a large hard disk, not when charging by the hour. A portable hard disk is also handy for moving files between computers, sneaker net El Grande. I think it would work pretty well with a monitor and printer as a kind of Docking Station for a laptop. System vendors will find it useful for installing software on multiple computers. SysOps can use it to bring their board "with them" when traveling or having a ready to run system backup.



The compact unit measures 10 X 5 X 1.5 inches (9" when unplugged), and it weighs in at about 2 pounds. Power is supplied via a plug-in wall transformer that is provided with the Plugngo, a small on/off switch is located on the back of the unit. There are two DB25 connectors on the back of the drive. The male connects to the computers parallel port using the 6 foot cable also provided with the unit, the cable is a straight DB25 male to female extension so any reasonable length should work. The female connector allows the drive to share the port with a printer or other parallel devices.

The manufacturer MicroPoint, Inc. sells the Plugngo in several capacities. The unit is also available without the drive, which is the way I purchased it. Buying the bare kit allows you to install your own IDE hard drive. The Plugngo supports 3.5 x 1 inch IDE drives up to 540 MB (before Stacker or DoubleSpace, assuming you want to complicate your life with disk compression). MicroPoint's manual indicates data transfer rates of up to 380 Kb/sec are possible. Using a shareware utility, DiskQwik I managed to get it to run even faster!

Speaking of Fast - Add DiskQwik and It's Really Fast!!!

DiskQwik, an excellent shareware utility that costs $25 to register from Dustbowl Designs, Inc. Simply add this block device driver that is designed exclusively for AT/IDE Hard Disk Drives to your **CONFIG.SYS** file and watch it fly. The majority of newer IDE hard drives have the built in capability to significantly increase their Data Transfer Rates by activating the MULTIPLE SECTOR Block Transfer Mode. That's what DiskQuik does. Dustbowl Designs has even had inquiries from commercial disk cache software vendors about licensing this clever technology.

According to the author increases in transfer rates of up to 45% are possible with this utility installed. The newest advanced motherboard designs just now being introduced are beginning to include support for MULTIPLE SECTOR Block Transfer Mode, until then DiskQuik may be just the ticket to unlocking the untapped performance of your IDE hard drive.

The current version of DiskQwik 1.1 comes with a 4DRVUTIL which makes it possible to have up to four hard drives including any combination of IDE and ESDA hard disks. Also included is a graphical benchmark utility, **4_SPEED**. You can use 4_SPEED to determine the performance improvement or whatever hard disk benchmark. Or use whatever benchmark you want such as CORETEST, or Norton Utilities SystemInfo.

Benchmarking results varied wildly and seem to be effected by the bidirectional speed of a given parallel port. The best description of performance I've heard is "a heartbeat slower than the same drive internally".

A computer doesn't need to have an IDE hard disk controller installed to use Plugngo. The electronics to control the drive are located in the Plugngo chassis. A Plugngo can also be used as the only hard disk in a system, but a bootable floppy is needed to load the required 6k driver in the **CONFIG.SYS** file.

I wish more products were as easy to install as a Plugngo. Connect the unit to the parallel port, plug in the wall transformer, flip the power switch and the hardware is installed. Insert the correct size floppy (both sizes are provided), type: "Install", and the program copies the driver to the path chosen, and places a line like: **DEVICE=PLUGNGO .SYS** into the **config.sys** file.

Here are a couple of imperfections. Some drives such as the Western Digital Caviar series are slightly taller than the intended Conner drives making for a tight but adequate fit. Another problem, the RAM thrifty device driver takes less than 6KB but also takes the next available drive letter without any options. Suddenly relocating devices like CD-ROMs can cause problems for software that recorded the path to the CD-ROM when it was installed. Reinstalling the CD software will fix the problem unless the Plugngo is going to be moved around a lot, since the CD-ROM drive letter will revert when the Plugngo isn't there.

One possible way around this problem is to make two copies of **CONFIG.SYS**, one called **CONFIG.IN** and the other called **CONFIG.OUT**. Replace the line **DEVICE=PLUGNGO .SYS** with **DEVICE=RAMDRIVE.SYS 16 512 /E** in **CONFIG.OUT**. Then create two batch files one called **OUT.BAT** that copies **CONFIG.OUT** to **CONFIG.SYS**, other called IN.BAT that copies **CONFIG.IN** to **CONFIG .SYS**. Type "in" when the Plugngo is present, "out" when absent. This is a kind of kludge, but it works. Here's how: it creates a 16 KB ramdisk in extended memory to keep the drive letters in place. One feature of Plugngo that helps is if Plugngo isn't present or turned on when the system boots the driver won't take a drive letter or use any memory.

Retail prices for Plugngo are $159 for the base unit and about $1.15 per megabyte. Several IDE hard drive sizes are currently offered including 120MB, 170MB, 220MB, 340MB, and 540MB. I picked up a new Western Digital 540MB IDE hard drive at the North Orange Country Computer Club for $380 that I installed into a Plugngo case and am using now to write this article. Plugngo, MicroPoint, Inc, 1530 Birch Meadow Court, San Jose, CA 95131 **(800)659-**

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3992, (408)944-0425, Fax **(408)944-9459**. Dustbowl Designs, Inc., 12600 S.E. 38th Street, Choctaw, OK 73020-6107. CIS: 71062,2542. Phone: **(405)741-4705** Ordering, Technical Support, General information. BBS: **(405)741-2721.**

PLANNING FOR A COMMERCIAL BBS

by Thom Foulks

OK, SysOp, the BBS is up and running fine, you have a growing list of eager users, and it's time to go commercial. After all, what's EXEC-PC got that you can't match? A lot of hardware and other expensive stuff, to begin with. Your lack is spelled $$$$. What's next is to check the health of that rich uncle in Yakima or trudge off to a bank — right?

Well, no. And that's spelled "NO!". What's next, is the preparation of a business plan. While those words immediately raise the ugly images of paperwork and bureaucracy, the planning process itself is one you're already on track with — all you need to do is formalize it. Unless, of course, Uncle Gaston in Yakima is no longer answering the phone ... and even then be aware that a business without a plan, is a business that doesn't know where it's going.

The number one fact is, no lending institution will lend you business venture money without a formal plan for your business. The second fact is that — while most will take your loan application and listen to you with polite interest — they will likely immediately refer you (or your paperwork) to the U.S. Small Business Administration (SBA). Ohmigawd, now the red tape REALLY begins to snarl — right?

Well, no. Now, your computer and modem become an even better friend than you may have realized. Thanks to an example of what superb government telecommunications service CAN provide, the SBA's information system is just a free phone call away. It's the **"SBA Online" BBS at 800-697-4636** (TBBS, 48 phone lines provided by Sprint, with most lines supporting 9600bps). Online are many documents about SBA's services and publications, much of which can be read online or downloaded for closer study later. Also available are statistics about American business and business-oriented shareware software. From SBA Online, you can learn the key elements necessary in any good business plan and get a sense of the type of information you will need to prepare to help entice any would-be investor. You can also get a listing of SBA contacts in your area, right down to name and phone number.

But don't call anyone yet. You have a lot of desk work to do, as the SBA's business plan guidelines will show you. Financial background and current financial status summaries, of course — but also information on what your telecommunications service is, what it has that people will pay for (marketability) and how you plan (not hope) for your business to make money. Time to crank up the spreadsheet and word processing software, and go to work (argghhh...!) — right?

Well, no. Software developers long ago recognized "business planning" as a niche market where THEIR business plans might make money, so there is a wide variety of business planning software products from which to choose. (Below, I'll give you some product names and thumbnail descriptions.) You'll want at least one, maybe more, of the products simply to help organize "standard" information into a presentable form. Surprisingly, some SyOps may find a shareware business planning package already in their BBS's files library.

OK, you got a business planning software package and have dutifully, trudgingly, almost painfully jumped through all its hoops. You've pulled printed stuff out of shoeboxes, glove compartments and the linen drawer. You've juggled numbers up-down-and-sideways so that they look realistic. Your verbal self- description of your new commercial telecommunications system and its merits would make a romance novelist blush. Time to get the bank's loan officer on the phone, and ask for an appointment — right?

Well, no. Fact is, far too many loan officers really don't LIKE the output of computer-based business planning software. Many SBA counselors share that view. (Both assessments based on my interviews with such officials.) The problem is, generally, computer-generated business plans frequently produce too much extraneous information, without necessarily providing the essential core element of potential profitability data any loan officer must be able to find.

More critically, a computer-generated document may bury the personal information about the most critical element of the plan — YOU. What any investor must be comfortable with is that there is, behind the business plan, a person (or persons) who can make the plan succeed. Remember that the essential element is planning to make a profit — without that, you don't have a business, only a hobby.

But DO choose a business planning package, if for no other reason than it will help you organize basic data in a consistent format. DON'T expect your work is done when the planning software has printed its report. That's when you write the plan that is YOURS — the only one with a chance at success.

Here's some top business planning software, and a thumbnail of each.

First Step Business Plan ($5) National Business Association PO Box 870728 Dallas, TX 75287 800/456-0440 An inexpensive disk that well may have everything you need, if your financial data (and you) are already well-organized. Several related disks also available. Start here.

Business Plan Master ($44/Shareware) David A. Works Grand Universal PO Box 4118 Whitefish, MT 59937 406/862-1280 BIZPLAN, in DOS and Windows versions, is on CIS, AOL, SBA Online, and many BBSs. A fast perusal (at least) will let you know what else you may need — exceptionally well-documented.

PLANMaker ($129) POWERSolutions for Business 1920 S. Broadway St. Louis, Mo 63104 314/421-0670 Prompts you for everything, but minimal advice on what may be irrelevevant to your plan. Expect to heavily edit, rewrite its output before going to the bank. Or after going to the bank. BizPlanBuilder ($129) JIAN Tools for Sales, Inc. 127 Second St. Los Altos, CA 94022-2745 415/941-9191 Most mature product of the group, bankers and SBA counselors know this one well — expect to do a heavy rewrite to make its output "yours." May all your business match your plans! Thom Foulks is a Colorado Springs, CO, computer consultant and free-lance writer specializing in small office/home office matters.

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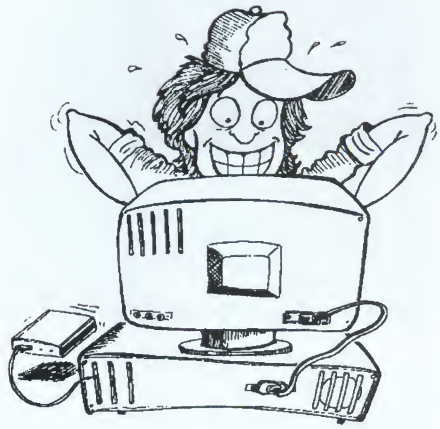

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THE NEW VIRTUAL INFIDELITY; IS IT LIVE OR IS IT CYBERSEX?

by Phyllis Phlegar

In a recent "Editor's Boot," Sheridan West made mention of the growing number of people who were going on line, and of the growing need to respect each other's "sensitivities just as if we were talking in public, or sending a letter or talking on the telephone." But imagine taking that one step further, to the large area of cyberspace which remains undefined. And that is, the area of cybersex.

About a year ago, I got on-line on the National Videotext Network, or "NVN," a service that had "live chat." And after visiting the open chat areas and receiving several propositions to "have computer sex" I realized that here was a phenomenon that had yet to be explored from inside. It would be a dirty job, but someone had to do it, and this reporter's sense of adventure was ready for the challenge.

First of all, I went to NVN'S anoymous "adult" area and I started asking a few questions like, "what goes on here," and "why are you here, what do you want?" In the process, I got to know a fellow who I'll call Clark.

Clark was a married man who had a nice family and was happy with his sex life, except for one thing. He really wanted to be tied up and abused by a dominatrix and his wife refused to do this. So Clark would go online, late at night, and with the help of a willing partner, would become someone's sex slave via the computer. You might be thinking that Clark was just a sicko with nothing much to do. But he was a full time engineer with a profitable firm, where his skills as a programmer also came into play. But the question is, can what he was doing be considered cheating on his wife? Clark's behavior bordered on obsession, and he seemed to be quite the cyberslut.

In the next few months, I met other people, but no one was as interesting as a fellow I'll call Randy, who I met quite by accident, in a public chat area, with all ID's displayed for all the world to see.

To help pay for all this "live" chat, I had volunteered to assist one of the sysops in exchange for free time on line. So while my ID was not hidden, it's hard to know who I really am, since the ID was customized to identify the forum. As is the case in many chat areas, a person sends you a message, you hear a beep, and the message shows up in a little box. Suddenly, I get "beeped" by a fellow who I knew slighly from another bulletin board. I recognized his ID right away. Suddenly, he's talking to me about how old am I, and out of the blue, asks me if I've ever had computer sex. This was a reporter's dream! Here's how part of our first conversation went:

(Randy) You've never done c-sex? (That can mean computer sex or cyberspace sex, either one.)

(Phyllis) C-sex, hmmmm. I don't think that's for me but I can't help but be curious as to what you mean. I've passed a few interesting notes in my time...

(Randy) Hmmmmmmmmm....Difference in doing it live to me, it's making love...only electronically.

(Phyllis) Wow. You must be single.

(Randy) No, I'm not single, actually. And I'm even a little older than you are. But I have to get to know the person I'm going to make love with.

(Phyllis) Does your wife have a problem with your cyberlovers?

(Randy) Actually, my wife doesn't know about my cyberlovers. She's usually asleep. I guess if she had more time and energy for me, I wouldn't be here.

(Phyllis) Sorry you're not getting what you need, but this is probably a safe place.

(Randy) Yes, it's safe. Although I have gotten "involved" with a few women. I guess I can't treat it as casually as I thought I might.

My husband and I talked it over, and we agreed that I would go "undercover" and really see what this was all about. My husband would be apprised of what was going on, and he'd be on hand for advice.

During the next week, I'd pop into the public chat area and see if Randy was there, and if he'd "beep" me again. He did, and off we went! Now I had his attention and I was starting to have some fun. And for a couple of months we talked about everything, and got to know each other. He sent me e-mail almost every day, and sounded much like the ardent suitor, saying how he missed me when he was out of town and not on-line. He spoke quite graphically about how much he enjoyed our on-line "dates." I began to feel like the "other woman."

But what about Randy's wife? At this point, could she simply be called a computer widow? I could understand him needing "a little in the night" like Clark, but Randy was making a lifestyle out of it. I don't see how his marriage could stay healthy, or even have a chance at all, with him making love to his computer screen, sometimes for over six hours at a shot, while his wife was either asleep or busy doing something else around the house. I wondered, does she know? And how would she feel if she caught him? Didn't she wonder what he was doing in there all the time? Maybe she didn't make love to him as often as he needed, but his obsession had to be detrimental to their marriage.

On a typical night in the two months of our relationship, Randy would go into my forum, where I worked on-line and page me into a conference room. We'd get into a conversation, or we'd write a story of sorts, with each of us supposedly playing out the parts. He'd say how much he loved talking to me about anything, and how it didn't have to be sex. He also said how much time he was spending with me, and that he didn't have time for anyone else, and he didn't seem to care. But apparently, that wasn't so after about six weeks. I

began to notice that Randy was beginning to act a little different.

Randy broke up with me shortly after that on a Saturday morning. He started talking about how he was sorry, but he wasn't getting "enough sex" from me, and needed more "lovers." He'd never agreed to "go steady" with me, and I think he tried to be "faithful" but just couldn't do it. And after months of courting and hours of lusty chat on-line, it was over.

Up until now, there has been little if any discussion about whether or not this sort of activity could be called infidelity on the part of married people. But, as a married woman myself, who spent several months in this "romance," I have an opinion. It might as well be having an affair or cheating, because it rendered the same psychological effects. I knew going into this what I was after, and my husband stayed apprised, but there was a line of privacy that I had to maintain, and it felt like I was actually having an affair. In fact, there were letters that Randy and I exchanged that I am actually too embarassed to show to my husband! And now that my "relationship" with Randy is over, I am relieved, but I also have a sense of loss.

Several years ago, when I first moved to Colorado, I hooked up with an old high school friend. He was a computer programmer, and an early on-line afficionado of the adult areas on Compuserve. He said something that really stuck in my mind about his on-line "affairs" and that was "be careful because when they are over, they hurt as much as the real ones."

ROCKWELL NETHOPPER BASEBALL HAT

by Charles J. Moore

With all the software and hardware that passes through the doors of this publication, it's not very often that I get a chance to put any of these products to the test. Being the "art guy" around here I really don't have the knowledge in the technical areas required for the task. Well, I finally got my chance last week with the arrival of the Rockwell "Net Hopper" baseball hat. From the conversation, I gather there was some expectation of receiving some sort of NetHopper hardware device. So when we received a baseball cap instead, there was some discussion as to who would best review it. No way was I going to let anybody else get a hold of this one, this little baby was all mine.

This isn't just your average everyday run-of-the-mill cap either. This baby is one nice piece of headgear. The first thing you will notice is the almost electric blue (looks like Pantone 227 to me) "Net Hopper" logo on the front. It isn't one of those cheap gaudy decals either - she's silkscreened right across the front - really sharp. The contrast between the electric blue logo with the snow white fabric of the rest of the hat is enough to jam radar - sure to make you stand out in a crowd and get noticed.

Charles Moore and his new hat "NetHopper" just before the high-speed test (and after shade test)

And talk about quality, this is no wool or cotton job, this baby is 100 percent pure polyester with the same look and feel of a finely crafted leisure suit. Made for both style and durability, it is sure to be a real eye catcher. In fact, while test wearing I was approached with more than one offer to buy it right off my head and was even asked by one gentleman to trade, straight across, for a brand new shriner's fez...no deal, I'm on assignment.

Well, as with any good and thorough product test and review, I decided to put this one through the paces and show no mercy. My first grueling drill was the "High Speed Stability Test."

While driving my 1985 Isuzu Trooper, (a vehicle known worldwide for its record setting speeds, being one of the fastest production cars in existence), I proceeded to travel north on Interstate 25 at speeds in excess of the posted 55 mph speed limit. I really don't know exactly how fast I was traveling as I began to experience multi-dimensional shift and could not read my high speed indicator. At this point, I placed my head out the driver's side window. The performance of the Net Hopper cap was astounding.

Very little, if any high speed wobble occurred and the lift to drag ratio was minimal. The sturdy construction really showed through, and the adjustable peg-and-hole hat band held firm. Not only that, the unique polyester construction and silkscreened logo were easily cleaned of all insect debris. A lesser hat would've flown to pieces and probably been stained forever.

Next was the shade test. Any hat can provide a satisfactory amount of eye protection when looking straight ahead, but I'm not testing just any hat here. So, I decided to put the shade factor to the limit. After a two hour drive to the top of Pike's Peak, I found a flat area (void of any sun block) and began the test.

While laying flat on my back and staring directly at the sun for two hours I began to realize the true value of this hat. Upon concluding the test, my assistant helped me to my car and after a couple of hours in the local emergency room I was amazed at the low degree of permanent damage to my retinas. This is one tough hat! A lesser hat would've left me blinded for life. By the way...the dog is a big help.

Finally, came the "How do you like my new hat?" test. Being in my friend Bob's wedding presented itself as the perfect opportunity to try this one out. I mean what could look more stylish than a tuxedo and a baseball hat? I cut a pretty darn dashing figure of a well-dressed best man - if I do say so myself. Everyone must have really liked the look and judging from the whispered conversation between the other guests and particularly the bride's mother, I could tell that this test had also proved the Nethopper is a real crowd pleaser. What more can I say? If you are looking for a quality, hand-crafted and stylish piece of headgear - look no further. Get your hands on the Rockwell Net Hopper ball cap. This is one bitchin' hat!

ISDN — AMERICA'S UNKNOWN SUPER DATA HIGHWAY

by Jim Thompson
Western News Service

Within the web of copper cords that form the primitive nerve system of America's communication infrastructure is an almost unknown jewel called the **I**ntegrated **S**ervices **D**igital **N**etwork or **ISDN**. It is a system that can provide most of the functions and abilities of the highly touted, but still futuristic, fiber optic system. Even the most optimistic predictions say the fiber optic network will not be fully functional until well past the year 2000. ISDN uses existing copper cabling and is already available in most major cities in the U.S. and overseas.

The ISDN system provides an electronic highway for the simultaneous high speed exchange of data and voice and provides the ability to send and receive large amounts of data like full-motion video and hi-resolution graphics. ISDN is a telephone line that carries data more than 25 times faster than conventional lines.

ISDN lines provide the pipeline for the use of videophones. I am not talking about the slow-scan models often demonstrated, but real-time full-motion video. The lines are capable of sending error-free data at a speed of 64 Kbs. With compression, effective throughput can exceed 200 Kbs. Local area networks can be linked with ISDN without the expense of leased lines or packet networks. For the BBS operator it opens a new world of services and presentations which can incorporate video, graphics and sound — the full multimedia spectrum.

ISDN utilizes existing copper cable lines (2-wire) which have been conditioned and enhanced by the telephone company at the central office. The conditioned lines are digital from end to end. This means there is no need to translate your computer data from digital to analog for transmission and then back again. It also means that your computer won't have to resend data that may have been scrambled by a noisy line.

IF IT'S SO GREAT, WHY HAVEN'T I HEARD ABOUT IT?

Actually, ISDN has been around for years, but the lack of a standard in the past kept it from being widely used. Until recently, Regional Bell Operating Companies (like Pacific Bell, Bell South and Bell Atlantic) had their own incompatible flavors of ISDN.

The establishment of the National ISDN-1 standard has solved the problems. Now you can not only talk to any other ISDN system in the U.S., but also to those in other countries.

You may not have heard about ISDN, but people around the world have been using it for years. Australia, England, France, Germany and Japan all have operating ISDN systems. In fact, France has had ISDN since 1988.

Many major companies have also used ISDN as an alternative to leased data lines for LANs and WANs. Others have found it to be the answer to video conferencing and the transmission of large volumes of material to remote locations.

ISDN comes in two basic flavors.

For the corporate world there is what is called PRI or "Primary Rate Interface." This is like having a T1 connection to a network. It allows for 23 high speed channels for voice and data and one channel that is used for signaling and packet data transmission. The cost of this service varies, but installation cost is about $1,500 with monthly charges of about $550. Of course, you must also pay for usage with calls billed at the standard rates.

The second type of ISDN is called BRI or "Basic Rate Interface." This service provides access to three channels at the same time over a single pair of wires. Called 2B+D, it allows for two 64 Kbs channels and a signaling channel.

COSTS

As with anything involving the telephone company, the pricing for this service is complicated, to say the least. Prices vary widely depending on the area of the country and exact type of service.

First there are a number of related services that are offered. The service available to you depends on your location. Like the pricing, services will vary not only from one city to another but also from one area to another within the same city. Pacific Bell offers Centrex IS ISDN, SDS IS ISDN and SDS 56. Each provides varying levels of service.

For example, SDS 56 (Switched Digital Service) provides 56 Kbs links (instead of 64 Kbs links) and does not provide voice capability (data transmission only). By contrast, SDS IS (switched Digital Service Integrated Systems), provides both voice and data transmissions along with the D-channel for packet data transfer at speeds of up to 9.6 Kbs. According to Pacific Bell, SDS IS, "provides users with switched (dialable) access and up to 144 Kbs bandwidth capacity, with all the improved transmission quality associated with a digital service." You will have to check with your local telephone company to get information on which service is offered in your area.

Pricing will depend on the services offered and the local market. Prices for the same service do vary from one city to another.

There are also various types of ISDN 2B+D lines available with varying prices. For a 2B+D line, I counted ten different configurations and twice as many pricing options depending on what type of service (SDS IS or Centrex IS) is available in the area.

For example, in California the prices for a 2B+D package (referred to as Package C for SDS IS) the breakdown as follows:

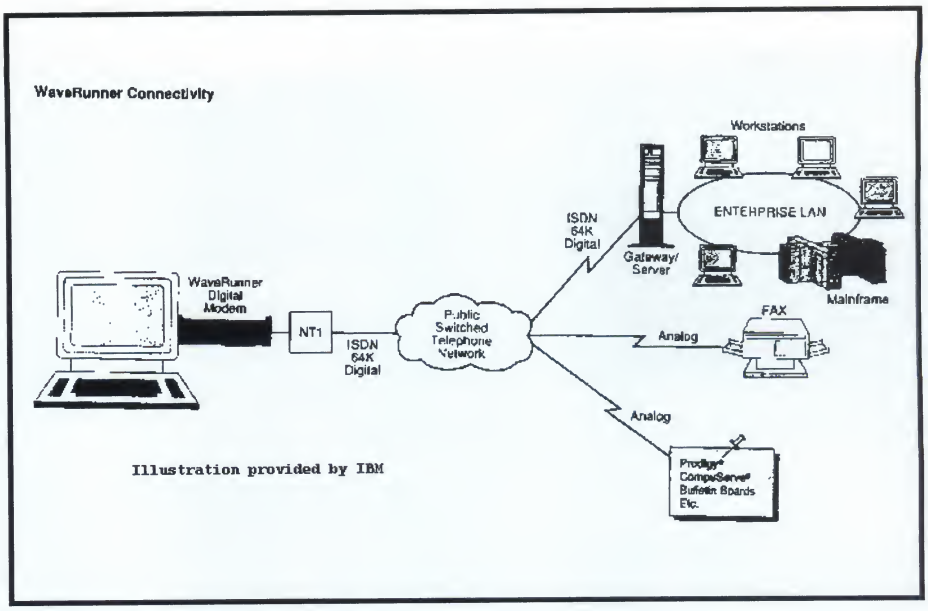
For any of the following options under SDS IS (ISDN bus, non Cen-

WHAT THE LETTERS MEAN
(Information provided by Pacific Bell)

SDS 56 (Switched Data Services 56) - Interconnects with Centrex IS, SDS IS and CenPath. It provides digital data transfer only (no voice capabilities) at a speed of 56 Kbs. Two and four wire configuration are available depending on distance from central office, availability and preference. The monthly rate in California is $45. Beginning February, 1994, the $500 installation charge is waived providing service is kept for two years. A compatible switched CSU/DSU must be provided by the customer.

SDS IS (Switched Data Services Integrated Systems) - Provides two primary 56/64 Kbs B channels for voice or data and a 16 Kbs D, or signalling channel for packet switching. This service allows for the use of voice and or data on both B channels at the same time. Interconnects with Centrex IS, SDS 56 and CenPath. No minimal line requirement. Pacific Bell considers this a "feature" of a 1 MB line (measured business line) which means you must have both lines. The combined charge for both lines from Pacific bell is approximately $27. The $150 installation charge is waived if the line is active for 24 months. There is an installation charge of $70. Usage charges are based on standard business rates. You will also need an NT1, power supply and a Terminal Adaptor (TA) or ISDN set. This equipment can range in price from $800 - $2,000.

CENTREX IS - This service provides ISDN access as an enhancement to basic Centrex service. It provides two primary 56/64 Kbs B channels for voice or data and a 16 Kbs D, or signalling channel for packet switching. This service allows for the use of voice and or data on both B channels at the same time. Additionally, X.25 packet access is available on the B or D channels. Interconnects with Centrex IS, SDS 56 and CenPath. In most cases, the monthly cost is $29.50 with a charge of $220 for installation. You will also be charge $300 for installation of the basic Centrex service if you do not already have this service. (Basic Centrex service includes hunting, call transfer, three-way conference, intercom and on-system calling at no charge.)



trex/Single Line): Installation $70 plus $26.85 per month

For any of the following options under Centrex IS (ISDN Centrex): Installation $220, plus $29.50 per month. There is also a charge of $300 for installation of the Centrex service if you do not already have this service.

2-B Voice + 1-D Packet Data
1-B Voice + 1-B Circuit Mode Data + D Packet Data
1-B Voice + 1-B Alternate Voce/ Circuit Data + D Packet Data
2-B Circuit Data + D Packet Data
1-B Circuit Data + 1-B Alt Voice/Circuit Data + D Packet Data
2-B Alt Voice/Circuit Data + D Packet Data

For any of the following options under SDS IS (ISDN bus, non Centrex/Single Line): Installation $350 plus $376.85 per month.

For any of the following options under Centrex IS (ISDN Centrex): Installation $500, plus $379.50 per month.

1-B Voice + 1-B Packet Data + D Packet Data
1-B Circuit Data + 1-B packet Data + D Packet Data
1-B Alt Voice/Circuit Data + 1-B Packet Data + D Packet Data

The final option of 2-B Packet Data + D Packet Data cost:

$630 Installation & $726.85 per month for SDS IS
$780 Installation & $729.50 per month for Centrex IS

Please note that the actual prices at the time of purchase may vary. Pacific Bell does offer a number of discounts and incentives. Please check with your local telephone company for current prices.

I admit that I was quite confused when trying to figure out the pricing. I received three different price schedules, each of which was different from the others. The prices did seem consistent but the options were explained differently. What I am saying is that these prices many not be 100% accurate. Check with your local telephone company for exact pricing for your needs.

It should also be noted that the telephone company is in the process of simplifying their pricing schedule. Even they admit that the present scheme, while offering the widest range of possibilities, is quite confusing.

Generally, you will also need to be located within 18,000 feet of a telephone company central office to get full ISDN service. However, through the use of a 4-wire line, this can be extended — for a price, of course. If you are within this magic 18,000 foot realm, you can send data at 64 Kbs. You will be limited, however, to 56 Kbs if the area is outside the 18,000 foot distance.

HARDWARE

After you pay for installation, monthly charges and per-minute charges, you will also need network interface equipment and computer hardware.

To use any ISDN line, you will need to have a power supply and an **NT1**. It will cost from $350 to $550 for this equipment. You will also need to sup-

ply a **TA** (Terminal Adaptor) or switch that provides this functionality. This can be a computer board that emulates a TA, a stand alone Terminal Adaptor or an ISDN telephone.

One of the best solutions for connecting your PC to an ISDN line is the **WaveRunner Digital Modem** from IBM. This internal card (available in both ISA and Micro Channel models) allows for both digital communications (at speeds of up to 64 Kbs) and analog communications. The WaveRunner supports most asynchronous modem specifications including Bell 103, Bell 212, V.22bis, V.32 and V.32bis along with the ability to send and receive data from Group III fax machines.

It provides an interface for ISDN Basic Rate service providing one 64 Kbs B channel for data and one 18 Kbs D channel for signalling. The built-in digital processor allows for software-upgradeable emulation of other hardware devices such as answering machines, fax machines, voice recognition and caller ID. Auto-sensing on the WaveRunner automatically interprets incoming D (signalling) channel messages and selects either analog or digital transmission mode. It also provides TCP/IP support and access to remote LANs.

The retail cost of the WaveRunner is $545 for the ISA model and $575 for the Micro Channel model. Contact WaveRunner, IBM PC Direct, Dept. WMD/B203, PO Box 12195, Research Triangle Park, Raleigh, NC 27709; **(800)426-2968** voice; **(800)426-4182** fax.

For data communications, you will also need "ISDN aware" software. Hilgraeve's HyperACCESS is one such package. Figure an addition $200 for software.

You can connect your LAN to the ISDN line so all users can share, but you will need a router and, of course, this will also cost you. For the Macintosh users, there are a number of routers on the market in the $1,000 range which will work with LocalTalk or Ethernet networks. For PC networks, Novell offers NetWare Access Server at a cost of around $2,000.

If you are using the ISDN line for voice only, you will need an ISDN telephone which takes the place of the Terminal Adapter. Such telephones provides most of the functions of a digital PBX system. But as Kathie Blankenship, Director of Product Marketing for Switched Digital Service of Pacific Bell, points out, "the big boost from such a system is that you can have the two B channels used as multiple call appearances. Call appearances on an ISDN line is conceptually like call waiting. Although you can only be on one or two of the B channels at any given time, you can technically have up to 64 call appearances."

Loosely translated, this means that you could technically have up to 64 calls ring through while having only two lines available for voice transmission. In other words, there could be 62 calls on hold, but you can actually be talking to only two people at any time. Also, each of the call appearances could be assigned a different telephone number, giving the illusion of having many different numbers on the single ISDN line.

[Jim Thompson is Managing Editor of Western News Service in Los Angeles, California. He also manages the Marlboro Racing News BBS. CompuServe: 72777,2677, MCI Mail: 321-4127]

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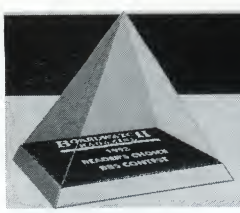

1994 Readers' Choice BBS Contest

Boardwatch Magazine is sponsoring the Third Annual Readers' Choice BBS Contest to find the 100 most popular bulletin board systems in North America - and the ONE BBS most popular among callers. The contest will run from January 1, 1994 through June 30, 1994. Winners will be announced at the **Online Networking Exposition and BBS Convention** (ONE BBSCON) held in Atlanta, Georgia, August 17-21, 1994. The Boardwatch 100 list will be published in subsequent issues of Boardwatch Magazine and distributed in electronic form world-wide.

PRIZES FOR VOTERS

All valid ballots submitted by voters will be entered in a random sweepstakes drawing. As of the opening date of this contest, prizes include five U.S. Robotics Courier Top of the line Modems, five Hayes OPTIMA 288 V.FC + FAX modems, and five ZyXEL Top of the line modems - and more are on the way. A minimum of 15 valid ballots will be selected from all entries and each will receive a free modem - from the most popular modem manufacturers in the world.

RULES FOR CALLERS

Each voter can vote once, for a single bulletin board system. Each ballot must be **fully completed**, and individually mailed by each voter. We will verify ballots as necessary. There are three ways to vote:

1. Complete this ballot and mail to: BOARDWATCH MAGAZINE, READERS' CHOICE BBS CONTEST, 8500 W Bowles Ave, Suite 210, Littleton, CO 80123.

2. Complete this ballot and FAX to **(303)933-0876**.

3. Or, dial the Boardwatch BBS at **(303)973-4222** and complete the online ballot provided on the main menu.

Balloting closes at 23:59:59 on June 30, 1994.

This contest is not limited to Boardwatch Magazine subscribers, and no purchase is required to participate in this contest. Reasonable facsimiles of this ballot are acceptable, so long as all specified information is included.

Title of bbs you vote for as the BEST: _____

Primary BBS access telephone number: _____

Is this BBS a long distance or toll call for you? ☐ YES ☐ NO

Voter name: _____ Voice telephone number: _____

Street address: _____

City: _____ State: _____ Zip code: _____

Primary communications software you use: _____

Primary modem manufacture and model: _____

Highest speed your modem supports: ☐ 1200bps ☐ 2400bps ☐ 9600bps ☐ 14400bps ☐ 19200bps ☐ 28800bps

Operating system: ☐ DOS ☐ OS/2 ☐ WINDOWS ☐ MAC ☐ AMIGA ☐ UNIX ☐ OTHER

Estimated BBS calls you make per month: _____ Average call duration: _____

Estimated investment in hardware and software: $ _____

Primary online interest (check all that apply): ☐ Mail/Mail Conferences ☐ Games/Entertainment ☐ Chat/Social ☐ News/Information ☐ Shareware (Files)

Do you also maintain accounts on commercial services? ☐ AOL ☐ Compuserve ☐ Delphi/BIX ☐ GEnie ☐ Prodigy ☐ None

AGE: _____ SEX: ☐ MALE ☐ FEMALE:

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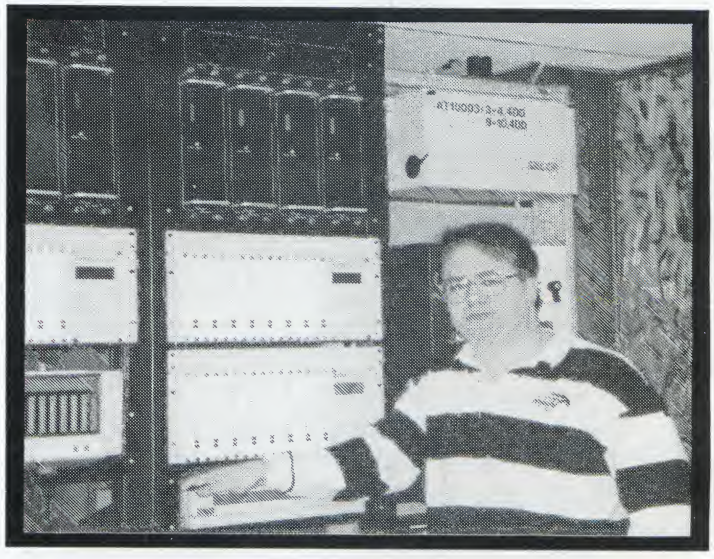

Mark Burnett at APDI's BBS center.

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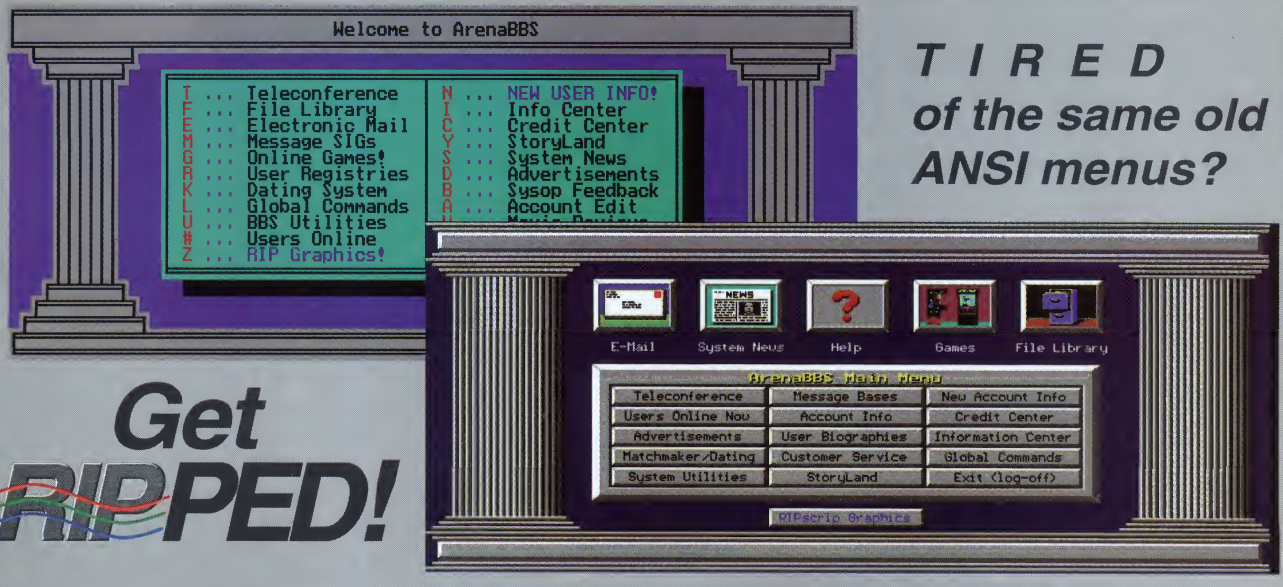

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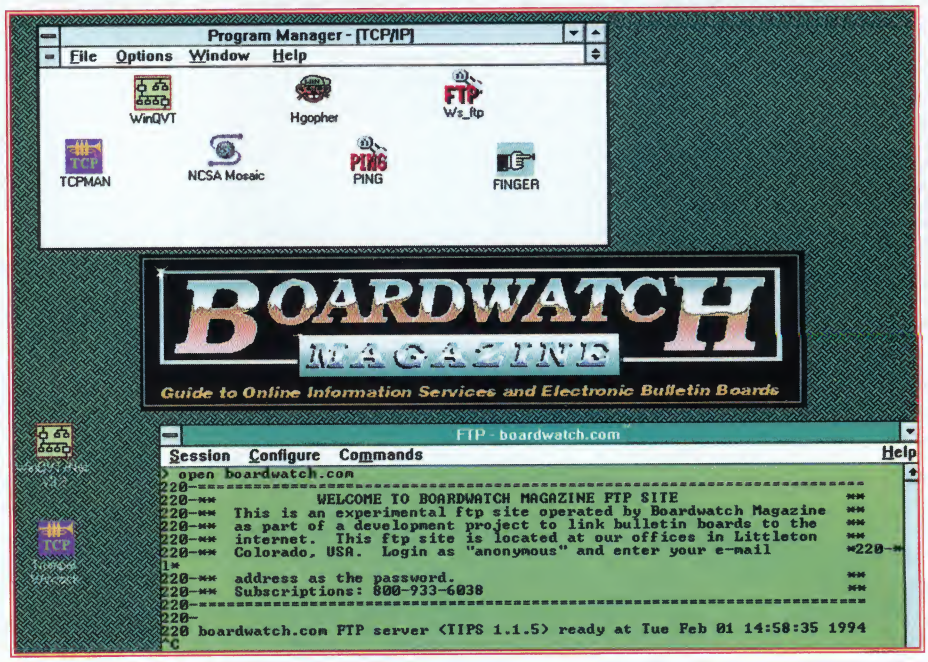
Internetica

FROM WINDOWS TO THE WORLD VIA INTERNET - NOT FOR THE FAINT OF HEART

by Jack Rickard



In the last issue, we reviewed a product from **NetManage, Inc.** titled **CHAMELEON** which we characterized as a barely installable $400 TCP/IP package for Windows. TCP/IP under Windows allows you to connect to the Internet via a SLIP dialup connection, or via the Internet Protocol on your local area network, and from there, connect to services all over the world using programs such as File Transport Protocol (ftp), telnet, mail, and so on. NetManage is making some headway as being THE commercial product in a box to connect Windows to IP, largely because everything else is uninstallable by humanoids.

In this issue, and with a great deal of trepidation, we are going to introduce you to the same functions - Windows TCP/IP, using totally free or very low cost shareware software that is in fact totally uninstallable. And then we'll show you how to install it and connect it on an existing Novell LAN.

The theory here is that by dealing in generalizations, most discussions of layered protocol suites and packet drivers lead only to confusion and frustration for most users, and that by showing a fairly precise example of the actual steps in connecting an existing Novell Lan to the Internet, and installing some Windows applications to do useful work, we can give you a picture of what's really happening and what some of the issues are. I rather expect to fail in this, with an article bogged down in detail, applicable to about 0.001% of our readership, and a bit boring to read. Remember you read it here first in Boardwatch.

The entire topic of TCP/IP under Windows varies a bit from our usual arena of simple PC communications via modem. You can actually perform this via a modem call to a host provider SLIP account. But this is more of an "alternate route" than the main thrust of TCP/IP. TCP/IP is used to link local area networks on a global basis.

We recently connected our Novell LAN to the TCP/IP Internet, mainly in an effort to sort through the various religious rites and mythology to determine what is actually required to work from a DOS/Windows/Novell architecture and still be able to do useful things with a full Internet Protocol link to the global network. What we found was interesting, in many ways disturbing, and thoroughly frustrating. But it also works, after a fashion, and we think a lot of people will desire this connection for their smallish office/company in the near future as the costs of the IP link come down. Finally, the chaos and power of individuals writing software to make connectivity work is nowhere better defined than in this current project. There is already a wealth of free or low cost shareware available to do demonstrably fascinating things from Windows over the network.

THE IP CONNECTION

Dropping for the moment our usual rag-picker mentality of how to make a connection for approximately zero dollars and zero cents, we decided to bring in a 56 KB synchronous leased line link to the Internet. Actually, the costs of doing this are very nearly in free fall. Barely six months ago, no one would even discuss a dedicated 56 KB link for less than $1000 per month PLUS the cost of a leased line to their location. NETCOM now offers 56 KB links for $400 per month. A relatively new player, NovX is offering 56 KBPS connections from some 300 SprintNet points of presence for just $345 per month. And it is shaping up as a very competitive market.

We contracted with a fairly new host service provider in Colorado Springs titled **Spectrum Online Services, Inc.** (SOSI). SOSI was started by Jim Welch and Chris Peters. The two were actually army compadres over in Saudi Arabia - Welch a Major and Peters an enlisted man in a technical field. On return to the states, both soldiers decided that the Army was winding down from the cold war, and likely offered few opportunities for future career growth. They left the service and originally planned to start a BBS in Colorado Springs.

One of the services they wanted to offer was Internet connectivity. They were located in a small office park with several other businesses. So they contacted **Colorado Supernet** to establish a 56KB link to the Internet, with the understanding that they could resell access to the businesses in their office complex in an effort to net out a free link for themselves. CSN went along with this at the time, even contractual-

Cray DCP3080 CSU/DSU (left) and NAT LANB/290 Router

ly - and allowing them to upgrade to T1 on the same deal later if they needed to. Soon they needed to, but CSN declined to install it. When faced with the contract, Guy Cooke of CSN essentially noted that it would take a court order - read sue us - and went so far as to cancel the current contract.

So the two went to **Advanced Network and Services**. ANS is a subsidiary of MCI and IBM that is the actual technical contractor that built the current NSFNet. They were somewhat more accommodating - for a price. And so SOSI found itself in the position of selling IP connectivity aggressively in order to afford their own. CSN, in a small minded display of greed, had basically forced a client to become the competition, an increasingly common, and somewhat fascinating theme of the Internet overall.

Internet access is a curious thing as a product. The more of it you sell, the more valuable it becomes. And anyone you sell it to can technically also sell it - broadly murking up the line between customer and competition. Currently, most providers write various dog-in-manger clauses into their contracts in a desparate attempt to keep this from happening. The effectiveness of the clauses rests on dubious legal theory and wishful thinking - a house of cards ready for a tumble in the first event of someone calling this somewhat dubious bluff.

In any event, we agreed to become one of Spectrum's early customers. The "link" agreement for a 56KB connection to Boardwatch came in at $666 per month, including the leased line from US West - typically about $240 per month. We also had to buy a bit of hardware, which we did on their recommendation.

The hardware components consisted of a **Cray Communications model DCP3080 CSU/DSU** - a device you might broadly characterize as a 56 KB synchronous modem. They cost about $450 and we were surprised to learn we had to buy one for both our end of the connection and the SOSI end - good work if you can get it. The CSU/DSU connects to the four-wire telephone connection in our office, and via an RS-232 serial cable, to a **NAT LANB/290 Remote IP Router**. This is a basic router with RS-232 in one end, and ethernet out the other. It lists for $1995 and is widely available on the street at about $1600. It is actually considered quite inexpensive and basic as routers go. The NAT router is connected to our existing local area network 10BaseT concentrator, and at this point, we have IP packets spraying onto our LAN without a clue. The NAT router also features a serial connector where you can plug in a laptop and "logon" to the router itself to change/enter various configuration items, of which there is no particular shortage to choose from.

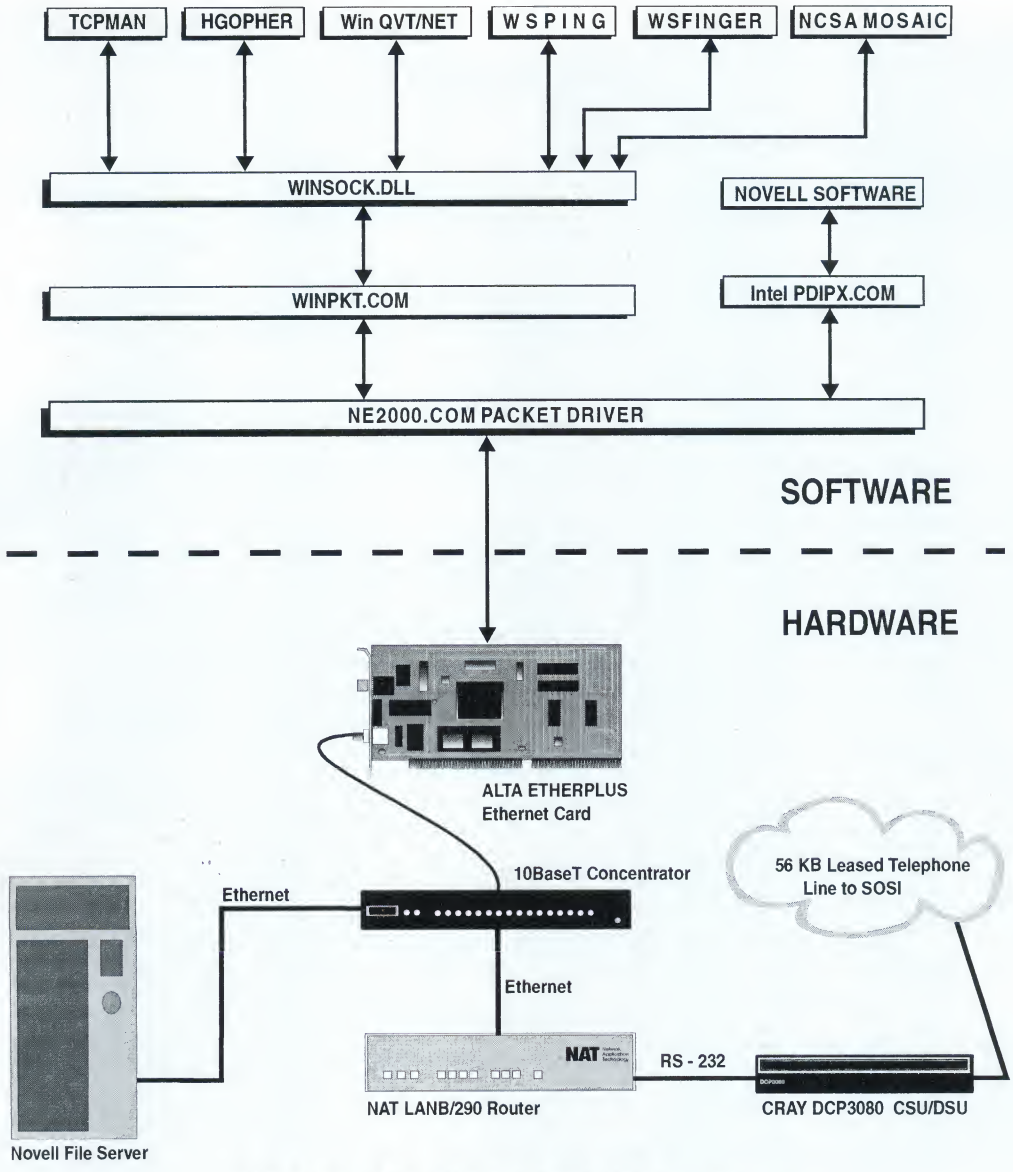
Despite a few mixups with US West, bad line pairs, and so forth, Chris Philips patiently worked through the installation process, and even put up with our endless series of inane and useless suggestions and observations in the process with a very patient and understanding hand. The primary "feature" we find in shopping for IP connections is a good working relationship with a knowledgeable provider able to provide quality installation and product support without entangling religious alliances complicating the fact that you "really should be running UNIX to do that." Phillips and Spectrum were quite accommodating in this respect, and surprisingly competent technically for a relatively new player.

There were plenty of interesting situations here. After all the installation, we found we could connect to our host's system via ftp and telnet, but not to any other. It turned out that our entry into Internet had not been added to the various routing tables on the network. And so whenever we tried to connect anywhere, they could not communicate back to us at all. In fact, for nearly a week there was one thing wrong or another, just one more item they had to configure somewhere in IP land. After talking to a half-dozen other IP customers of at least two other Internet host services, we found this is just terribly normal. The concept that someone will come out, plug in a router and phone line, and you will be connected does not appear to exist on-planet at this point. Expect several visits, some confused conversations, and general stumbling about for about a week - it appears to be a normal part of the process.

At one point, we had a terribly hacked version of KA9Q, a free DOS TCP/IP package, that we use to connect our BBS to the world of the Internet. It wasn't working very well. We could logon to the BBS locally across the LAN, but no one could from outside our immediate network. Philips actually not only determined the problem from our confused description over the telephone, but actually told us what line in the KA9Q configuration file to change to make it work - all from the blind. Very impressive.

NOVELL AND IP - AN UNEASY COEXISTENCE

We were a little surprised to learn that was all there was to it. And as it turns out, it wasn't. But ethernet LANs actually carry data packets, typically 1500 bytes each, and care little for their origin, destination, or specific nature. So it is actually quite permissable to take an existing Novell ethernet LAN and hook it up to an Internet Protocol router. Basically,



Windows/Novell to Internet Connection

to an ethernet card, packets are packets. IP packets, Novell packets, the hardware really doesn't care. Physically, they can coexist quite nicely without holding in abeyance any of the laws of physics, and in fact, we found virtually no noticeable decrease in performance of our normal LAN functions. Surely there must be some, but if so, it was negligible.

To actually use the TCP/IP packets is another story, and therein lies a tale.

FTP Software is actually credited with devising the concept of a packet driver for LAN network interface cards. Generally, in local area networking, you have the LAN card, of whatever ilk, and the LAN software, which possesses it rather totally, monitoring everything that happens on it and jumping to work if any of the packets appear to be addressed to your particular machine.

The packet driver concept is to produce a very small piece of software that lies between the LAN operating software and the card. In this way, this little software shim can actually route packets to DIFFERENT software applications. Each application thinks they have full use of the card. And the card only sees one software interface. In this way, applications can share a single LAN card and local area network, and in fact, they can even use different protocols. The packet driver shim plays traffic cop to apportion data packets to the correct application.

It's a fascinating concept and it has become popular. Broadly, each LAN NIC card has to have its own specific packet driver program. In practice, some generic drivers handle a lot of vaguely similar cards, and many drivers have been written. A project at Clarkson University encouraged the development and release of dozens of packet drivers as public domain soft-

ware. Today this has grown to an entire library, with source code available, known as the **Clarkson Packet Driver** collection or often the **Crynwry Packet Driver** collection. They are freely available from many sites on the net. ***DRIVERS.ZIP*** contains the executables and documentation, while **DRIVERS1.ZIP** and **DRIVERS2.ZIP** contain the assembly language source listings.

The documentation on these drivers is frankly insufficient. But the concept is not too difficult. You pick out a driver for your LAN card and install it in your **AUTOEXEC.BAT** file. There are generally several options that are utterly greek in nature. We used the **NE2000.COM** driver. A tremendous number of ethernet cards of different manufacture are actually quite compatible with Novell's NE2000 type. Our LAN cards are actually made by a virtually unknown company titled ALTA. Whatever. Here's our driver installation line in AUTOEXEC.BAT.

ne2000 -w 0x60 2 0x300

Note that there are four options that trail the basic **NE2000** command. The first is the most gruesomely inexplicable. You can add **-d**, **-n**, and/or **-w** in this position. The -n switch is described as necessary for Novell. Inexplicably, it is not only not necessary, but you can't have it the way we configured the system. The **-d** switch allows you to load the packet driver but not configure it until you use the card (??? let's just pass on this one). The **-w** switch is described as necessary if you are using the system with Windows, to prevent windows from closing it when switching applications, it did seem necessary.

The **0x60** designation is actually for a software interrupt vector and goes to the heart of how packet drivers can work. These are addresses between 0x60 and 0x80 hex, but we suspect all in the world use the 0x60 address and it worked fine for us. Broadly, if the card itself causes a hardware interrupt, the software interrupt vector tells the computer where to go to execute software to handle the interrupt.

The **2** designation is the hardware interrupt (IRQ) for your specific LAN card. You usually have to set a jumper on the card for this interrupt when you installed it, and it cannot conflict with other hardware interrupts on your system.

Similarly, the **0x300** is the port address of the LAN card. This is the memory address where data from the card appears to the software. Again, this almost always has to be set via jumpers or switches on the card when you install it the first time. Part of the challenge of these last two items, at least on an already installed LAN, is to find out what you set them to six months ago when you brought up this particular work station.

BUT PACKET DRIVERS DON'T DO WHAT THEY'RE ADVERTISED TO DO

Recall that the entire purpose of packet drivers is to allow multiple applications to coexist on the same LAN, and share a single LAN card with the Packet Driver acting as traffic cop. Well, that actually doesn't work, and in all the documentation with the entire TCP/IP suite of shareware programs, we found hardly a single mention of our problem. We spent about 10 hours in near-tears making one educated guess after another to no particularly noticeable effect on the system. After installing the packet driver, we found we could use Novell, but not TCP/IP. If we removed the Novell configuration, then we COULD use TCP/IP, but of course could not use Novell.

ipx
netx
netbios
login jack

The statements above were what we were doing in **AUTOEXEC.BAT** to load the Novell system. In one of the many documents we were reading, we did find a similar configuration, but it had **PDIPX** instead of **IPX** as part of the Novell load. Packet Driver IPX??? None of our Novell diskettes had such a thing. Through a remarkable bit of detective work, our technical director, Gary Funk, found a reference to PDIPX on a BBS, traced it to a file full of messages, which provided a further clue to the **Intel BBS** at **(503)645-6275**. It seems Colin Cooke of Intel wrote a **PDIPX** (available in the **PCKT16.EXE** self extracting file) that does the trick. When we replaced **IPX** with **PDIPX**, both Novell and TCP/IP found they could in fact coexist. Note that the documentation almost everywhere indicates that you must use the -n switch on the packet driver if you are using Novell - and this is specifically indicated in the PDIPX documentation. In no case did we find that it worked when we used this switch, and in most cases it did work without it.

WINSOCK

Another "layered" software concept that is gaining a lot of ground is that of **Windows Sockets**. This is a Windows program, in **Dynamic Link Library** (DLL) form, that acts as an interface between the packet driver and any of a number of Windows applications. **NetManage, Inc.** seems to have been the first to write a Windows DLL TCP/IP protocol stack with the "sockets" feature. NetManage contributed the specification for this to the public domain. Today, a number of commercial TCP/IP solutions for Windows have their own **WINSOCK.DLL**.

A shareware program called **Trumpet Windows Sockets**, developed by Peter R. Tattam of the University of Tasmania in Australia has pretty much taken over in the shareware/pd world - based largely on its price - it is free. And literally dozens of TCP/IP Windows applications are appearing - all relying on existence of a **WINSOCK.DLL** for operation, and some requiring the Trumpet WINSOCK specifically. This program has "enabled" development of a lot of good software for Windows/TCP/IP.

In this sense, it works somewhat like a FOSSIL driver for bulletin boards. Between the packet driver and **WINSOCK.DLL**, almost all of the difficult communications issues are taken care of. Application developers can then write fairly simple programs using a WINSOCK library. This dramatically accelerates the development of such programs. But the authors appear to know or care little how it all works, and as a result, their documentation references to WINSOCK's and packet drivers is a little vague. In piecing all of this together, virtually all program documentation assumed that someone else was describing this adequately in THEIR documentation - ergo the almost total confusion a new user will encounter when trying to piece any of it together.

There is ONE single useful development in the topic of documentation. Since most of the programs we encountered were Windows applications, they almost universally have begun providing documentation in **.WRI** or WinWord's **.DOC** format with a variety of typefaces, bolding, underlining, and so forth. The result is that you can print out the documentation from Windows on a postscript or HP printer and get MUCH improved format for the docs. The docs may be pathetic with regards to information, but they are usually much prettier than what we've seen in shareware in the past.

Back to WINSOCK. Trumpet is commonly available in the file WINSOCK.ZIP. The WINSOCK.DLL program is actually the heart of it, but to perform setup and control operations, and monitor various activities, a program titled **TCPMAN.EXE** is provided.

Trumpet, in the latest version 1.0 release 18, actually does support SLIP and you can set up a little script to dial a host provider and establish a SLIP link. Whether by LAN or by dialup SLIP, there are some configuration issues. And actually these following items from the **TRUMPWSK.INI** file come up in many of the application programs as well. They can often require a little research and conversation with your host provider to get this information.

ip =	**199.33.229.10**
netmask =	**255.255.255.0**
gateway =	**199.33.229.1**
dns =	**198.59.29.1**

IP is YOUR Internet Protocol address. This is the IP address of the specific machine you are setting this up on. Our Class C IP address is **199.33.229.x** where **x** is any machine on our network. In the example above, we've set up **199.33.229.10**. The addresses **199.33.229.0** and **199.33.229.255** are reserved addresses for broadcast functions on all TCP/IP LAN's and you cannot use them. The **199.33.229.1** address is the ethernet port on our router, for use as a gateway. Basically, any local traffic works on the last decimal number. And any packet addressed to an IP address outside of the mask, is passed to the gateway for further transport to the wider world of the Internet.

The **NETMASK** is a bit mask indicating what components of an Internet IP address are important. They are normally listed in decimal format which rather confuses the issue. Basically, a **255** indicates a portion of the address to ignore, and a **0** indicates a portion of the address pertinent to your LAN. In a Class C LAN, **255.255.255.0** is a pretty ordinary mask, indicating that when dealing with packets, each machine looks at the last segment only to determine if the packet is for them.

The **GATEWAY** is actually pretty important too. The **199.33.229.1** designation is actually assigned to the ethernet port on the NAT router. Any time we want to access an IP address that isn't local to our LAN, it will be routed to this address, and thereby out the router gateway to the wider world.

Finally, **DNS** stands for **Domain Name Server**. This is usually a machine on your host provider's network. TCP/IP actually ALWAYS works on a numeric decimal IP address such as **199.33.229.20**. Most programs allow you to ftp, telnet, or send mail to a domain name such as **BOARDWATCH.LITTLETON.CO.US**. In order to make the connection, it must "lookup" the IP number from the given name, and then make the connection - much as you would look up a telephone number for someone before dialing it. This can actually be done from a local list file. But addresses change daily in a global network, with new ones added, old ones shut down and so forth. An entire system of distributed databases exist on the Internet to promulgate this list quite widely. This field lists the name of a host on the Internet where your machine can send a request for a name lookup. The host then replies with the actual IP number. In this way, if you request to ftp boardwatch.com, the machine first contacts its name server, retrieves the IP address for boardwatch.com, and then makes the connection. Your Internet host provider normally will have a machine on their network that serves as the domain name server for all machines they service. Think of this as "directory assistance."

Recall again the role of the packet driver - to allow universal use of the network interface card. Well, actually it didn't happen again. WINSOCK.DLL actually needs another layer of software between it and the packet driver. In this case, it is a program titled **WINPKT.COM**. This additional little software shim must be added to the **AUTOEXEC.BAT** file following the packet driver statement.

ne2000 -w 0x60 2 0x300	*Packet Driver*
winpkt 0x60	*WINSOCK interface to packet driver*
pdipx	*Intel's Packet Driver version of IPX*
netx	*Novell NETX*
netbios	*Novell NETBIOS*
login jack	*Novell login from this workstation.*

The program has one argument - the software interrupt vector used by the packet driver. Note that both our **NE2000** packet driver and **WINPKT** both specify **0x60** as the software interrupt vector address. The series of statements from our **AUTOEXEC.BAT** necessary to accommodate packet driver, winsock, and our normal Novell logon are listed above.

The rest of Trumpet is accessed from Windows itself. You can add the **TCPMAN.EXE** program to a group, and it features its own icon. When you call it up by clicking on the icon, it activates the windows sockets program, and shows you a logging screen. You can select various items for it to monitor on the LAN, and it will dutifully log this activity. To use other applications, leave it open, but minimize it.

THINGS FOR WINSOCK

The significant element of Mr. Tattum's WINSOCK program is that it DOES finally provide a universal interface for application programs, and it performs all of the communications overhead for them so that application program authors don't have to deal with the vagaries of programming a full TCP/IP stack to do anything. This is analogous to the **FOSSIL** driver function in the BBS community. You write programs to plug into WINSOCK.DLL. The concept dates back to the sockets concept of Berkeley's UNIX - to accomplish basically the same thing - a programming interface for TCP/IP applications. Once you have your packet driver and WINSOCK installed, you can plug in, try, discard, use, and otherwise dally with an entire series of Windows applications to make the net useful. In our January issue, we reviewed a program titled NCSA Mosaic to access the World Wide Web with a very graphic interface. It works with WINSOCK.DLL.

WINQVT/NET

A significant application is available via shareware titled **WinQVT/Net**. Published by **QPC Software** of Penfield, New York, this *$40 title* gives you the basic elements you need to access the net, and we found performance and interface comparable to NetManage's $400 CHAMELEON in many respects.

WinQVT/Net provides a telnet agent, an ftp agent, an ftp server, both POP3 and SMTP electronic mail, Usenet News groups, and network printing. You can have up to 15 "sessions" or activities going simultaneously, each in their own Window. We found the interface for all of these to be usable. FTP, for example, does provide the little "form" you can fill out to fetch a file that seems to be the jist of the effort to make FTP easy on Windows. But you can also knock this out of the way and basically have a little ftp window that works very normally and in UNIX fashion. The telnet agent is actually quite advanced offering VT 220, VT 102, VT52, ANSI, and a couple of other emulations with a lot of options - including colors, fonts, and so forth expected in a Windows environment.

The program actually comes in two versions, one for **WINSOCK** (**WNQVTWSK.EXE**), and another that will work without it (**WNQVTNET.EXE**). Our interest was in the **WINSOCK** version and it worked well. Actually, there is a third version, **QVT32NET.EXE**, designed for the Windows NT platform. We haven't a clue.

HAMPSON'S GOPHER

From the United Kingdom, Martyn Hampson has developed a public domain gopher client for Windows titled **HGOPHER**. The Gopher concept started life at the University of Minnesota as a client/server tool to access Internet services such as FTP archives, USENET news, archie, telnet, and so on via a fairly simple menu structure. The university's mascot was a gopher (although the actual animal they keep as mascot was later learned to be a ground squirrel - another story). In any event students at the university developed software that acts as a type of menu to the Internet by listing hundreds of other telnet and ftp sites that you can connect to by selecting them from the menu. It would "go-fer" information, a pun on what it did, and the mascot.

The concept has actually expanded a bit beyond "menu" into a kind of self-updating matrix of online services on the Internet similar to the World Wide Web. Generally, it is a bit plainer than the NCSA Mosaic interface to the hypertext based World Wide Web. But numerically, gopher is winning the sweepstakes with explosive growth in the number of sites sporting gopher hosts.

Hampson's gopher is the client end you can run under Windows. It allows you to connect to a gopher server, and then navigate through various related systems, including **VERONICA** (Very Easy Rodent-Oriented Netwide Index to Computerized Archives) and **WAIS** (Wide Area Information Servers) somewhat indirectly and in this way generally bounce around the planet by clicking furiously with a mouse.

This is a bit intoxicating. At times, you have to stop and think what you've just done with your hand and mouse after clicking from the United Kingdom, to Minnesota, to Japan in the space of 30 seconds or so.

The program installs by simply adding it to a Windows program group and of course uses the Trumpet WINSOCK for communications. There are some configuration items, but they appear on menus in the program itself. It is fairly open ended in that you can point to image viewers, video players, audio players, and so forth as adjuncts to the program, allowing you to view GIF images, etc as part of the gopher navigational experience. You can tie specific viewer/player programs to specific file types and the Gopher client will keep it all straight as you receive information.

This is the kind of front end to the Internet that will ultimately make it easy enough for the rest of us to navigate the terrain without a library of books scattered across the desktop.

NCSA MOSAIC

NCSA Mosaic for Windows was reviewed in the February issue of Boardwatch. Similarly to Hampson's Gopher client, NCSA Mosaic is a client program/navigator for the World Wide Web. It offers a hypertext interface to the world and is quite advanced in the multi-media sense of sound, graphics, video, etc. tied to information servers all over the planet. It works with WINSOCK, and is very easy to install. It is available for **XWindows**, the **Macintosh**, and most recently for Windows 3.1. Chris Wilson and Jon Mittelhauser of NCSA wrote it under grant from the National Science Foundation and it is free of charge.

WS_PING

WS_PING is a **Windows Sockets PING Client** written by John A. Junod of Martinez Georgia. It performs a very simple, but useful task. You can PING any other Internet site, and it will send 10 PING packets to that host. The host will echo them back. In this way, you can determine 1. That such a host does in fact exist on the net, 2. That it is more or less operational, and 3. The roundtrip delay in milliseconds that the packet took to get there and get back. Somewhat by implication, it demonstrates that YOU are effectively connected to the net and able to communicate with other systems - and you will find this little program a very useful little aid for that reason alone. It doesn't really do much else.

WSFINGER

Jim O'Brian of **Tidewater Systems** in Salisbury Maryland has written a Windows sockets Finger application. This is another very narrow purpose, but often useful utility. **FINGER** is an Internet function that allows you to find out a bit more about another system, or more specifically, another user on another system. If the system does respond to a FINGER request, and not all do, you can **FINGER user@domain.com** and get back a very brief description of that user's name, last time they logged on, whether they have waiting mail, and so forth - depending on what the host FINGER server has configured as information they want to let out. Often interesting results. Some go as far as replying with a complete bio of the user.

SUMMARY

Dialup SLIP connections are becoming more widely available at lower prices. And frankly, 56 KB IP connection prices appear to be in a nose dive. Six months ago, there was no one in the world who would talk to

you about a 56 kbps link for less than $1000 per month PLUS the cost of the leased line from their point of presence to your office or home - typically $200-$300 additional cost. So full time IP connections were just out of the question for most of us.

They are still not inexpensive. But we are beginning to see host providers offering 56 KBPS links in the $300 to $400 per month range and these prices are apparently dropping. (We'll undoubtedly get a lot of wishful letters from host providers noting this is not so, but it is starting to look like a very notable and useful trend). At that level, largish bulletin boards, and even relatively small offices can start to eye a full-time linkup for their LANs as feasible. If you are already at the point where 5 to 8 employees have dialup accounts for SLIP or interactive login somewhere, it is not even much of a leap. To be able to simply click on something half a world away without going through anything in the way of dialing actually does change things for an organization.

And software tools are getting there. The total software investment for the bevy of tools we have described here, when registered, doesn't actually get to the $50 mark. A surprising amount of it is simply free. And what we looked at is easily as competent and useful as any commercial package. The number of really quite good programs available for this niche was actually quite impressive. And in an increasingly commercial software arena, where every bit and pixel appears to have a price tag, we were surprised that the spirit of contribution to the online community and public domain offerings still exists in a significant fashion. Basically, everything you need to connect an existing Novell LAN installation to the Internet to allow Windows grunt-click connectivity to the entire world, not only exists, but is virtually free of charge.

Locating and installing all of the little pieces of software necessary to do so is a bit of a treasure hunt. And there simply isn't any documentation anywhere we have found that provides a lucid road map of how to do it in any cogent fashion. Like so much of the online experience, the pioneers must rely on oral tradition and the buddy system to get most of it to work.

That said, the connection is doable, increasingly useful, and also increasingly affordable. Over the next few years, we think connecting Novell LAN's and Windows to the planet via TCP/IP - without benefit of a local UNIX system, is going to become a howling/booming trend extending far down into what is normally considered very small high-tech businesses. And for the general BBS caller population, telnet and ftp access from your local BBS will become very common.

THE BAG O' STUFF

INTERNET SERVICE PROVIDERS

Spectrum Online Services, Inc.
2860 South Circle Drive, Suite 2202
Colorado Springs, CO 80906
(719)576-6845 voice
(719)576-6853 data
ckp@sosi.com

NovX InterServ
56 kbps - $345 per month from 300 cities
316 Occidental Avenue South
2nd Floor
Seattle, WA 98104
(206)447-0800 voice
(206)447-9008 fax
info@novx.com

NETCOM
56 kbps - $400 per month
4000 Moorpark Ave., Suite 209
San Jose, CA 95117
(408)554-8649 voice
(408)241-9145 fax
info@netcom.com

HARDWARE

Cray Communications
Model DCP3080 CSU/DSU
Approximately $450
Cray Communications, Inc.
9020 Junction Drive
Annapolis Junction, MD 20701
(301)317-7710 voice
(301)317-7220 fax
(301)317-7633 BBS

NAT LANB/290 Remote IP Router
Approximately $1995
Network Application Technology, Inc.
1686 Dell Avenue
Campbell, CA 95008
(408)370-4300 voice
(408)370-4222 fax

SOFTWARE

Crynwr Packet Driver Collection
DRIVERS.ZIP
Public Domain
Kermit Distribution Dept PD
Columbia University Center for
Computing Activities
612 West 115th Street
New York, NY 10025
(212)854-3703 voice

PDIPX Packet Driver Shell
PCKT16.EXE
Copyrighted, but freely copyable
Colin Cooke - author
Intel BBS - (503)645-6275
or sun.soe.clarkson.edu -
/pub/packet-drivers/intelpd.zip

Trumpet Winsock
WINSOCK.ZIP
Shareware - currently free
Peter R. Tattam
University of Tasmania
peter@psychnet.psychol.utas.edu.au

WinQVT/Net
QVTNE394.ZIP
Shareware - $40
QPC Software
P.O. Box 226
Penfield, NY 14526
djpk@troi.cc.rochester.edu
Latest available from
biochemstry.cwru.edu in /pub/qvtnet

Windows Sockets Finger Application
WSFINGER.ZIP
Public Domain
Jim O'Brien
Tidewater Systems
207 Glen Ave.
Salisbury, MD 21801
(401)860-0593 voice
72713.1426@compuserve.com

Windows Sockets PING Client
WS_PING.ZIP
Public Domain
John A. Junod
267 Hillwood Street
Martinez, GA 30907
junodj@gordon-emh2.army.mil

Hampson's Gopher
A Gopher Client for Windows 3.1
HGOPHER.ZIP
Public Domain
Martyn Hampson
m.hampson@ic.ac.uk
ftp lister.cc.ic.ac.uk
cd /pub/wingopher

NCSA Mosaic
World Wide Web Interface for Windows 3.1
WMOS1_0.ZIP
Public Domain
Chris Wilson and Jon Mittelhauser
ftp ftp.ncsa.uiuc.edu
cd /Mosaic/Windows
e-mail: mosaic-win@ncsa.uiuc.edu

FEDERAL BUDGET FOR 1995 AVAILABLE ON INTERNET AND CD-ROM

by Jack Rickard

On February 7, for the first time ever, a CD-ROM disc with the complete electronic version of President Clinton's 1995 plan for the U.S. Government Fiscal Year 1995 Budget, as transmitted to Congress, was offered to the public.

OMB Director Leon Panetta said, "In the spirit of the National Performance Review we are pleased to use CD-ROM technology to make the 1995 Budget proposal readily available to more Americans at a lower cost."

The four budget documents that are available immediately will be cheaper than the printed versions and they will be more versatile: users will be able to display exact images of the printed pages, search for key words, and copy or print portions for further reference.

The documents available include:

Budget of the U.S. Government, Fiscal Year 1995

Budget of the United States Government, Fiscal Year 1995, Analytical Perspectives

Budget of the U.S. Government, Fiscal Year 1995, Historical Tables

Budget System and Concepts of the U.S. Government

CD-ROM's (compact disc, read only memory) can be ordered from the Department of Commerce for $30, compared with $56 for the printed versions of the four documents ordered from the **Government Printing Office [202-783-3238]**. The CD-ROMs will be available for pickup at the DOC, via first class mail, or via overnight delivery ($10 extra). These documents can be used on three popular versions of personal computer software — MS-DOS, Windows, and Apple Macintosh, all trade-marked systems of private companies.

These documents also will be available, at no charge, to subscribers to **Commerce's Economic Bulletin Board** (EBB) at **(202) 482-3870**, which provides rapid online delivery of all major Federal economic news releases. This BBS may also be reached via telnet at: **ebb.stat-usa.gov**

Plain text [ASCII] versions of these documents are available from several other sources.

On the internet:

PUBLICATIONS@WHITEHOUSE.GOV

telnet to **NTIABBS.NTIA.DOC.GOV**

Budget95@ACE.ESUSDA.GOV or gopher to: **ace.esusda.gov**

SUNSITE.UNC.EDU (152.2.22.81)

On various BBSs, including:

NTIA BBS: 202-482-1199
NTIS FEDWORLD BBS: 703-321-8020
US NEWSWIRE: 410-363-0834

Commercial vendors such as:

America Online
CompuServe
GEnie
MCI Mail

The appendix, which contains highly detailed data on the budget, will not be available until later this month. However, the entire budget will be available in the February 1994 issue of Commerce's National Economic, Social, and Environmental Data Bank (NESE.DB). The NESE.DB costs $360 for four issues a year or $95 for a single CD-ROM. One disc contains more than 100,000 documents including current Internal Revenue Service tax forms that can be reproduced just like the printed versions. Those who purchase the four immediately available documents for $30 will be able to purchase the February 1994 NESE-DB for $65.

To order, contact Office of Business Analysis, Room H4885, U.S. Department of Commerce, Washington, D.C. 20230; 800-782-8872 voice (202)482-1986 fax.

NUMBER GAMES - HOW BIG IS THE INTERNET?

by Jack Rickard

The question that travels in a more or less endless circle online concerns how big things are. I suppose it is natural to want to know how large your universe is. And it is probably also true that if you are part of something, it's better for it to be something big, than something not so big. As a result, the tendency is to inflate numbers quite beyond the bounds of credibility.

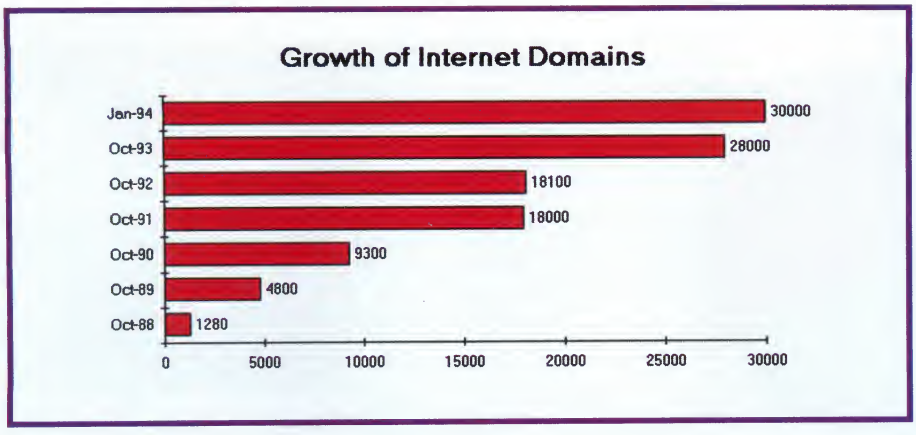
The other problem with counting almost anything, is agreeing on the definition of what you are counting. In the oftimes ethereal world of online networking, this can be particularly gruesome.

SRI International maintains a network information systems center (NISC) peculiarly positioned to count things. In 1986, they created a program titled the Zealot Of Name Edification or ZONE program. ZONE is particularly interesting in that once every three months they run it, and it more or less interactively surveys the Internet by walking through the Domain Name System (DNS) tree online to collect information on the number of domains and hosts ostensibly making up the Internet. The entire process of using ZONE for net statistics, and the full set of assumptions and provisos regarding this statistical data is described in a memo from M. Lottor that has been archived as RFC-1296.

A series of fascinating documents regarding Internet growth are available at the SRI site **ftp.nisc.sri.com** in the directory **/pub/zone.** You can reach this site by anonymous ftp and get the latest numbers at your convenience, and perform your own analysis of what they mean pretty much at will.

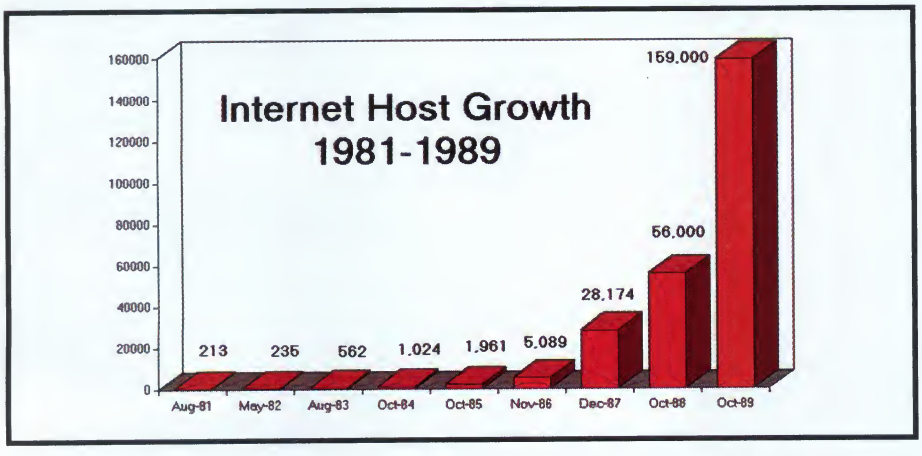
We found the RFC-1296 document available there. Additionally, there was a 438 KB document titled **domains** that appears to list every registered domain name on the Internet. Domains are the umbrella "name" of a site that offers some connection to the Internet.

BOARDWATCH.COM, for example, is a domain. Note that a domain does NOT actually imply IP connectivity. So if you define being part of the "Internet" as actually have a TCP/IP link to the network, and being reachable by ftp/telnet/ping or other such programs, the number of hosts simply isn't accurate. It is more accurately a list of sites in the Domain Name System to which you can address mail. And probably a MAJORITY of them



actually receive mail by UUCP or other intermittent means from an MX-Forwarder - a site that IS connected to the Internet by TCP/IP.

The history of domain assignments does, however, at least establish a trend line for Internet activity.



Another interesting statistic is the number of "hosts". Hosts, on the Internet, is not precisely defined as you might expect in the rest of the online community. A "host" doesn't necessarily host other machines or anything else, it is simply a workstation on a LAN that has an IP numeric address. A single person might use a host quite solely, a host could have any number of users up to the thousands, or a host might not have a humanoid associated with it at all, and indeed many don't. At Boardwatch, we have IP addresses assigned to our router (.1) a mail machine (.254) and others for whom humanoids are irrelevant.

But most "estimates" of the number of people on the Internet assume some x number of people per host. There is no actual basis for this beyond a guess, and many people assume a factor of 10 warm bodies per host. We would acknowledge the credibility of two warm bodies per host with the outside possibility that one warm body per host might be more accurate - if your goal is to determine the number of individual humans with telnet/ftp access to the Internet. This is changing with services such as Delphi offering such access to thousands of users. But even then, they also have many IP addressable machines doing it. So the question of humanoids/host is indeed an open one.

One thing that is defineable is the number of hosts each domain claims, and ZONE is pretty good at ferreting out that information.

Of these hosts, it is interesting to note that by attempting to ping a random sample of 5% of all hosts, SRI estimates that only 26% of hosts are "pingable" another element of some definition of "Internet-edness" of interest. That would imply some 576,000 hosts that you can PING.

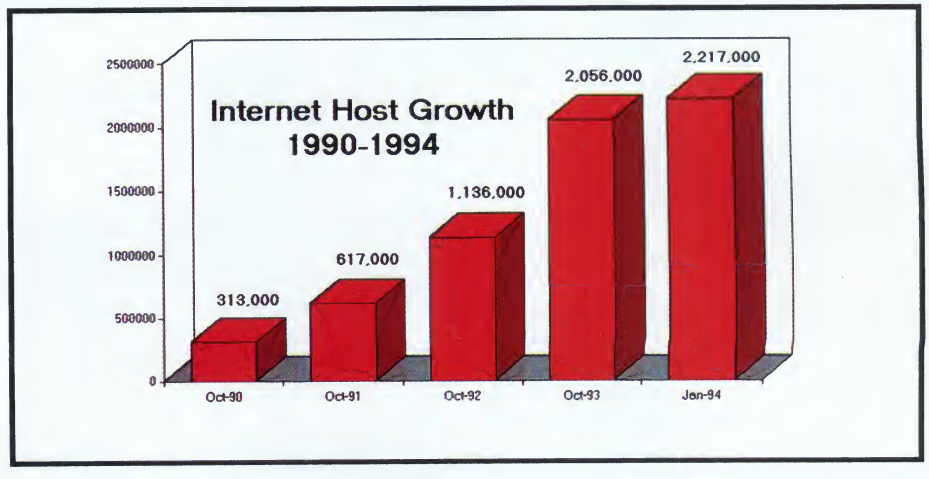
Based on this, we would have to estimate the total number of normally active users "on" the Internet with ftp/telnet access at around 5 million. The nature of connections beyond that are quickly approaching "everybody" as all major commercial services, FidoNet, and increasingly the bulletin board community as a whole, can send e-mail globally via the Internet.

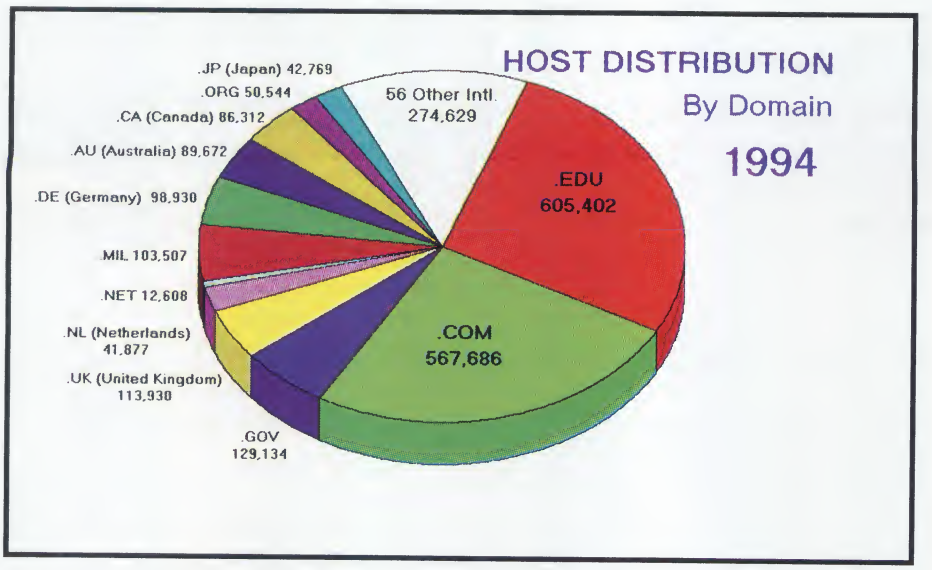
The distribution of hosts is also interesting. The Internet was once primarily government agencies and Universities. As of January, 1994

.edu	605,402 hosts
.com	567,686 hosts
.gov	129,134 hosts
.mil	103,507 hosts
.org	50,544 hosts
.net	12,608 hosts

International domain addresses tied to various countries outside the U.S.

.uk	113,930 United Kingdom
.de	98,930 Germany
.au	89,672 Australia
.ca	86,312 Canada
.jp	42,769 Japan
.nl	41,877 Netherlands





With some 274,629 hosts distributed among some 56 other nations.

Of some final interest is the number of "networks" connected to the Internet. There are three classes of networks based on the size of the address space for each class. Class C networks can potentially assign up to 256 "hosts" an IP number and there can be up to 2,097,152 Class C networks. Note that both numbers are reduced by a couple of "reserved" addresses. Class B networks can potentially assign up to 65,535 hosts an IP number, and the Internet can support up to 16,384 Class B nets. And Class A networks can potentially assign up to 16,777,215 hosts an IP address, but there can only be 128 Class A networks. Each class reflects different use of the four part IP address of the form **198.33.229.254**. Class A networks, for example, use the last three numbers for host assignment. Class B networks use the first two to address the network, and the last two to address hosts within the network. And Class C uses the first three numbers to address the network, but only the last number to address hosts within the network. As of January, 1994:

Class A: 74
Class B: 4043
Class C: 16,422

Total Networks - 20,539

When you hear discussions of "running out of IP address space, this is what they are talking about. There is little demand for Class A networks at this point because few nets need 16 million seats. The 16,422 Class C networks doesn't even approach the two million available. But Class C networks can only address 256 seats, and who wants to be restricted to that? As a result, there is a lot of demand for a Class B network, which can handle up to 65,535 seats - again overkill but the next step up from Class C. But there are only 16,384 possible Class B networks and we have used some 4043 now. At the current annual doubling rate of the Internet, there won't be any available in about two years - three years at the most.

NEW DIPLOMATIC TOOL - ELECTRONIC MAIL

For the first time in history, the President of the United States has corresponded with another head of government using electronic mail. President Clinton received an E-mail message from Prime Minister Carl Bildt of Sweden on February 4, 1994. On February 5, 1994, President Clinton responded in kind.

Since President Clinton introduced electronic communications to the White House in June of 1993, the White House has received more than 125,000 messages. They have come from people around the world, but this is the first such comunication from another country's head of government. As the President stated, "This demonstration of electronic communications is an important step toward building a global information superhighway."

TEXT OF AN E-MAIL MESSAGE FROM PRIME MINISTER CARL BILDT TO PRESIDENT CLINTON

Dear Bill,

Apart from testing this connection on the global internet system, I want to congratulate you on your decision to end the trade embargo on Vietnam. I am planning to go to Vietnam in April and will certainly use the occasion to take up the question of the MIA's. From the Swedish side we have tried to be helpful on this issue in the past, and we will continue to use the contacts we might have.

Sweden is - as you know - one of the leading countries in the world in the field of telecommunications, and it is only appropriate that we should be among the first to use the Internet also for political contacts and communications around the globe.

Yours,
Carl

FOR TRANSMISSION TO PRIME MINISTER BILDT OVER THE INTERNET

BEGIN TEXT

DEAR CARL:

I APPRECIATE YOUR SUPPORT FOR MY DECISION TO END THE TRADE EMBARGO ON VIETNAM AND THANK YOU FOR ALL THAT SWEDEN HAS DONE ON THE QUESTION OF POW/MIAS.

I SHARE YOUR ENTHUSIASM FOR THE POTENTIAL OF EMERGING COMMUNICATIONS TECHNOLOGIES. THIS DEMONSTRATION OF ELECTRONIC COMMUNICATIONS IS AN IMPORTANT STEP TOWARD BUILDING A GLOBAL INFORMATION SUPERHIGHWAY.

SINCERELY,

BILL

HIS EXCELLENCY
CARL BILDT
PRIME MINISTER OF SWEDEN
STOCKHOLM

END TEXT

THE REAL-LIFE ADVENTURES OF THE INTERNET TWINS

by Harley Hahn and Wendy Murdock

On Monday January 17, at 4:31 AM, the Earth moved. Now, for your typical cool California surfer dude, this is not an uncommon occurrence. What was out of the ordinary this time, was that the Earth was moving for everybody else as well: a major earthquake had occurred in Southern California, cutting off our electricity and neatly severing our connection to the Internet (the so-called Lorena Bobbitt effect).

What followed in the next couple of days revealed a side of the Internet that most of use take for granted: the people. Of course, the Internet is nothing if not people but still, it is all too easy to talk about the world's largest computer network and miss the most important point: that the Internet is really the largest gathering of human beings in history. Moreover, as any Internet veteran can tell you, Net people are generally selfless, considerate and kind. Perhaps a better way to say it is that there is something about the Internet that tends to bring out the best in us. Does this sound far-fetched? Just listen.

At 4:31 AM I was woken up by the shaking. At 4:37 AM, the lights went out. Being the cool California dude that I am, I calmly went back to sleep, but when I woke up and the lights were still out I realized that life had changed. The unexpected early morning shake-and-bake party had cut me off from the Internet.

Now, I don't know what all the other millions of Internet orphans did at that moment, but I called Craig Criswell. Craig runs NetIowa, an Internet access provider based in Iowa: the land of corn, the ISCA BBS, and endlessly cold winters that make you long for the warmth and comfort of a California earthquake.

There are three things that distinguish Craig from your typical Internet access executive: First, he is just the type of energetic, bon vivant captain of industry that makes modern Iowa what it is today. Second, he has forged ties with the statewide telephone company so that NetIowa will never run out of phone lines or modems. And third, his service is accessed via an 800 toll-free number.

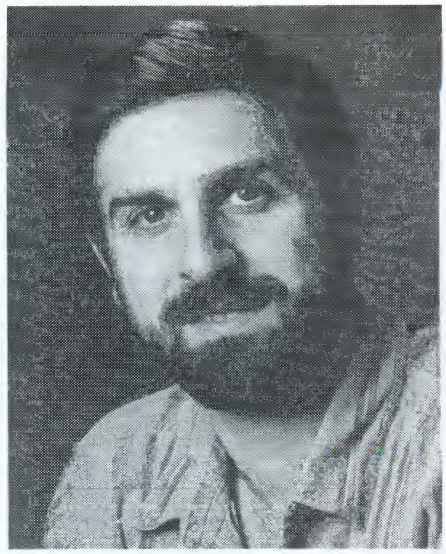
Here I was, cut off from humanity but - and this is a big "but" - the phone system was still up. Thus, if I could find someplace to connect, I could get back on the Net. There was no point trying to call a computer in Southern California; they were all down and would stay down for hours, some for days. So I spoke to Craig, and it was the work of a moment for him to create a NetIowa account for me. Then, all I had to do was use the 800 number, log in and, faster than you could erase the wrong file with the Unix remove command, I was connected: back on the Net.

When I got on, I began to notice some things. First, although I had never used NetIowa before, people found me and started to send me mail. Never had I seen so many gentle offers of help. Iowans may be cold in the winter, but they are certainly compassionate on the inside. Their concern and consideration warmed the what-do-you-call-its of my heart and helped me feel as comfortable and welcome as a grey-haired lady at a Wayne Newton concert.

Second, I found that NetIowa is well connected and it was easy to get in touch with my Internet friends. The first thing I did was send mail to my partner Wendy the MUD goddess (who for reasons of her own was still living in Arkansas). In a few moments, we were connected via the **talk** program and chattering away like two teenagers in a movie theater. Next, I sent mail to all the people who I knew would need to reach me and informed them of my new address.

Third, I started to hear rumors that the Usenet community had already sprung into action so I fired up the local newsreader program (**nn**) and found that a brand new newsgroup had already been started: **alt.current-events.LA-quake**. Moreover, it wasn't long before Clarinet (the Usenet-like service that provides real news for real money) had started a group called **clari.news.hot.laquake**. Then, of course, there was the already existing newsgroup **ca.earthquakes**.

I found Usenet to be a tremendous resource, which is another way of saying that the Net people were tremendous. You must understand that, at the time, there was no electricity (I have a laptop with a battery) and thus, no television for most of the area. Thus, people back east watching CNN knew more about what was happening than the locals who were wandering around looking for drinking water and extra batteries. It was great to see that a few back-easterners were summarizing the CNN coverage and posting it to Usenet.



Just as important, the few people who were able to connect from Southern California were giving eye witness reports for the whole world. Of course, most of these reports were delivered with the typical Californian's laid back radical coolness: "Well, it's another sunny, warm day in paradise here. The palm tress are swaying gently in the breeze and, outside my window, the birds in the orange tree are singing euphoniously. It seems as if there was a bit of an earthquake this morning, but we are all hoping that the surf will pick up later in the day..."

Of course, there were the expected request for specific information about relatives and friends. ("I wonder if anyone in Los Angeles who might be reading this could tell me if my Aunt Sophie is okay. She is about 5 foot 3, grey hair...".) Meanwhile, Wendy (also a BBS queen), was sitting at her computer, countenancing a quiet sort of placid concentration that in a less attractive woman could easily pass for dullness. As the earthquake drama unfolded in the West, Wendy was quickly and competently pinging machines left and right and sending mail, in order to track down her wide

circle of friends, many of whom are smart enough to live in California. Once she had ascertained that they were all okay, she was able to post the news, along with live action details, to the appropriate MUDs and BBSs.

Another interesting Usenet curiosity was that the government agencies who seem to pop into life at times like this were issuing frequent reports which somehow found their way onto the appropriate newsgroups. I saw many such postings from the NWS (National Weather Service) - which confirmed that California was still having ideal weather - and the FEMA (Federal Emergency Management Agency) - which issued bulletin after bulletin full of cryptic but impressive looking acronyms and official announcements explaining where and when the next press conference would take place.

Once my fascination with up-to-the-minute news was satiated, I turned to the Internet for some hard data. By fingering a computer at the University of Washington, I was able to get the technical data on the big shake, and was surprised to see just how many aftershocks there were.

Overall, I had an interesting day that provided a fascinating glimpse into the soul of the Internet: people who cared, rapid dissemination of information, and standard sources of technical data, all available to anyone with the right connection and a modicum of know-how.

One thing that I couldn't help but remember, was that the original motivation for the design of the Arpanet (the Internet's ancestor) was the U.S. Department of Defense's funding of a research project to develop a network that was robust enough to survive the destruction of some of its links. You never know what may happen, went the reasoning, and there is no real reason to shut down a computer network just because part of it has ended up on the wrong side of a nuclear weapon. And today, the packet-switched TCP/IP-fed Internet is the proud descendent of that paranoia-inspired dream.

No matter what happens, the Internet - and its millions of wonderful Net people - are here to stay. The spirit of good will (not mention the dependable flow of information) is part of our economy, our culture, and our hearts.

We are connected. And now that the Internet is here to stay, neither rain, nor sleet, nor gloom of night, nor even a mild California sunshower, will ever disconnect humanity from itself. And remember, it is not a computer network, it is a gathering of people. We are just using the computers until something better comes along.

RESOURCES

NetIowa is an Internet access provider whose service can be used via a toll-free 800 number from anywhere in he continental United States. They charge only 10 cents per minute ($6/hour) with no minimum. If you are any kind of Net user, I recommend that you start a NetIowa account. If you never use it, you never pay. But in an emergency - or even when you are travelling - it is handy to have Net access. Moreover, it is good to have a place where your friends know they can reach you at all times. Call them at **(800) 546-6587**.

Usenet is a global system of discussion groups. To access Usenet, you use a newsreader program. The one mentioned in this article is called **nn**. Other common newsreaders are **rn**, **trn** and **tin**. The newsgroup **ca.earthquakes** is for ongoing discussion of California earthquakes and related topics. The newsgroup **alt.current-events.la-quake** was started shortly after the January 17th quake as a place for timely discussion of the aftermath and a repository of official announcements. For a more technical discussion of earthquake-related building considerations (among other topics), see **sci.engr.civil**.

Clarinet is a Usenet-like service that provides many different newsgroups that contain real news (from news wires and so on). The Clarinet newsgroup devoted to news about the Southern California quake is **clari.news.hot.laquake**. Clarinet costs real money and you will only be able to use it if your organization pays for it. If this is the case, you read Clarinet newsgroups in the same way as regular newsgroups.

For a full discussion of Usenet and how it works, see The Internet Complete Reference (Osborne McGraw-Hill), Chapters 9. 10 and 11. For instructions on how to use the various newsreader programs, see Chapters 12, 13, 14 and 15.

The **talk** program mentioned above is an Internet facility that allows two people anywhere on the Internet to have a private conversation. The *ytalk* program (a more modern variation) allows more than two people to talk at the same time. For more details, see Chapter 19 in The Internet Complete Reference.

For current information about important quakes all over the world, as well as all quakes in the Pacific Northwest, you can finger a computer at the University of Washington. Use the command:

finger quake@geophys.washington.edu

(The finger service is explained in Chapter 8 of the above book.) For current information about quakes in Central and Northern California, you can finger a computer run by the U.S. Geological Survey, Western Region:

finger quake@andreas.wr.usgs.gov

If you want to get serious about earthquakes, the US Geological Survey branch of Global Seismology and Geomagnetism On-line Information System has a machine to which you can telnet. Use the command:

telnet neis.cr.usgs.gov

Log in as **qed** (which stands for "quick epicenter determinations"). No password is necessary. You will find a menu based system with which you can experiment. For help in using telnet, see Chapter 7 in The Internet Complete Reference.

For earthquake-related information, you can use Anonymous FTP (Chapter 16 in the book) to access a repository at Caltech. Use either of the commands:

ftp seismo.caltech.edu

ftp earth.gps.caltech.edu

To access an archive of detailed weekly reports dealing quake activity in Southern California, in either text

or postscript format, look in the directory **/pub/ca.earthquakes**.

There is also an anonymous FTP earthquake archive at:

ftp garlock.wr.usgs.gov

You can find weekly reports and maps (in GIF format) for Northern Califonia, the US, and the world. Look in the directory **/pub/WEEKREPS**.

The MUDs and BBSs I mentioned are great places to meet people. MUDs (literally, "multiple user dimensions") are virtual worlds in which you can role play, travel, talk to people, and have adventures. For more information on both of these Internet facilities (including sources of information to get you started with MUDs, as well as places to find lists of Internet BBSs), see *The Internet Yellow Pages* (Osborne McGraw-Hill).

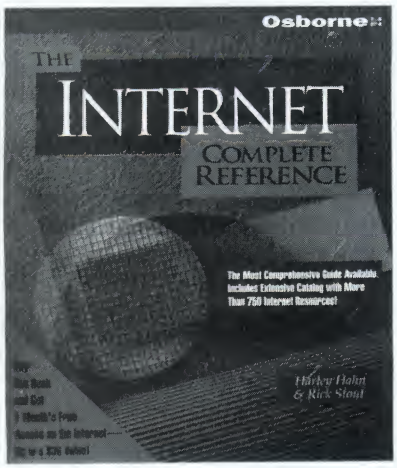
Finally, for those of you who love torturing yourself on cold winter days, you can check out the weather in Southern California (or anywhere) by telneting to the University of Michigan Weather Underground service:

telnet madlab.sprl.umich.edu 3000

Note: The number after the address (**3000**) is a "port number" and must be included.

[Harley Hahn is an internationally recognized author, consultant and analyst. His books include: The Internet Complete Reference, The Internet Yellow Pages and a Student's Guide to UNIX.

Wendy Murdock is an artist, writer, and Internet veteran specializing in creative art forms including BBSs and MUDs.]



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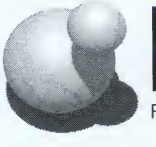

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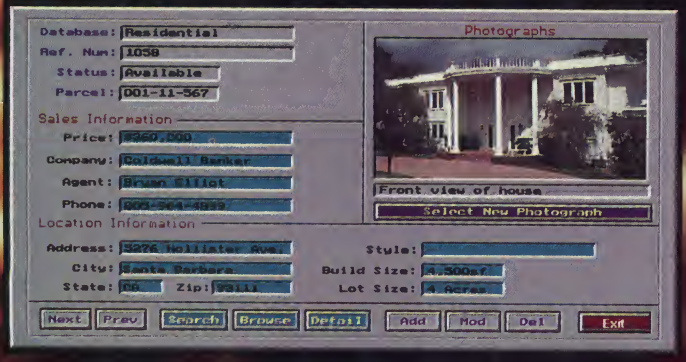

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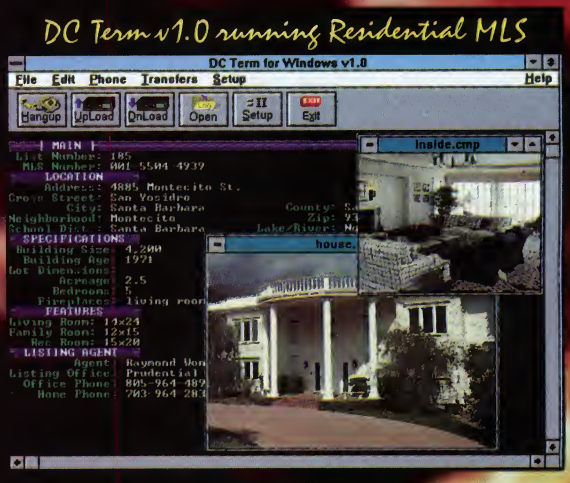

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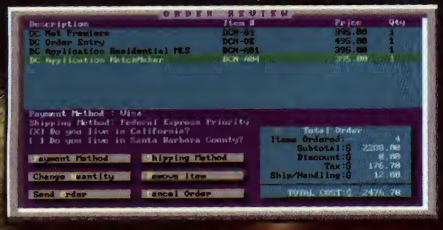

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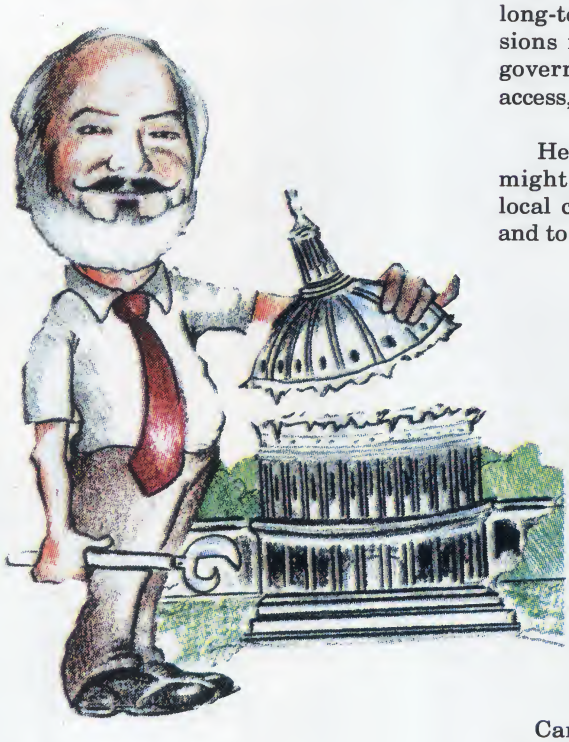

by Jim Warren

The issue is how we will be permitted to — and enabled to — be informed participants in the process of our own governance. The foundation is timely, equitable (economical) access to public information about our government — federal, state and local public records.

There are some government-access public-policy issues that are appearing more and more frequently at the federal, state and local levels, that will have crucial impact on how our society and our participation therein — and, in some cases, on whether government will be able to operate efficiently in the future.

Numerous information-industry companies, great and small, are smoothly and vigorously hustling government decision-makers with offers to "help" them determine those policies that will impact us all for decades to come - and are greasing the decision-skids with promises of significant off-budget (i.e., non-tax-based) loot.

Many public decision-makers — especially at the local levels, and often at the state levels - have little or no awareness of the medium-term and long-term ramifications of their decisions in the crucial area of access to government information. Their *own* access, as well as the public's access.

Here are some of the issues. You might consider copying this to your local civic and governmental leaders, and to your state representatives.

PUBLIC INFORMATION POLICIES

1. Public agencies should assure that all of the public have equal access to the public's information that are held by the agencies - "public records" - and have free and equal rights to use, re-use and re-distribute the information, regardless of whether it is in paper form or computerized form(s).

Can you imagine a 15th Century government telling its people that they could have copies of their public records, but only if they waited for a scribe to illegibly hand-copy them - that fast, readable copies created by Gutenberg's new-fangled printing-press technology were too valuable and convenient to be *free*?

To the end of protecting government and public access, agencies should vigilantly defend their right-of-copy for the computerized form(s) of all public information that the agencies collect or originate, when they originate or pay for its computerization. Agencies should avoid granting exclusive or monopoly control over computerized public records to any private entity or entities - not even when they get a kickback, uh, fee or royalty or equipment or service as payment for granting such a monopoly.

Protecting agencys' right-of-copy is as important to agencies as it is to the public, for there are increasing instances where public agencies have actually lost equitable access to their own records in useful - computerized - form, by naively contracting it away to private entities. [As an example, see the author's January, 1994, /i/Board-Watch\i\ column about the U.S. Department of Justice's federal-case-law debacle.]

2. When providing online or dial-up access to computerized public records, agencies should utilize computers that are connected to major, nonproprietary, public computer networks — preferably the global Internet, but at least a low-cost public network such as FidoNet.

Just as communities connect themselves to larger roadway systems, and just as they want telephone connections beyond their own borders, so also should communitys' computerized information be timely-available and economically- accessible beyond their provincial boundaries - especially given that it costs nearly nothing (in government-budget terms) to connect to one or several of the nonprofit, nonproprietary, cooperative public computer networks that blanket the nation.

There is no need, however, for each agency and department to run its own online public-access systems. They might contract with centralized government computer-services bureaus, or with some other agency's already-robust public-access system - e.g., a college, university, school district. Public libraries are also an excellent option, as an accurate analog of the tradition of federal and state repository libraries in each federal congressional district, and in many state legislative districts - if they have the funding, equipment and staff zeal.

This is valuable to each community's residents and officials when they venture beyond their community. And at least as important, timely low-cost or free national and global access permits all individuals and communities to share and exchange their files, policies, problems, discussions and solutions.

It permits communities - villages, counties, states and nations - to efficiently find and share information; to stand on each others' shoulders, rather than on each others' toes.

3. When agencies co-mingle public information with non-public confidential or private information in computerized systems, then they should assure that the systems include push-of-a-button redacting - removal - of the non-public components, in order that the public's information may remain timely, economically and efficiently available to the public.

This means that when agencies solicit or design systems that co-mingle public and non-public information — which is often useful and completely justified - then, they must insure provision for automatically or manually marking or "flagging" all information that is not public, as the information is being entered into the system. Manual redacting - by a computer typist or by scissors on paper - is unacceptable and illustrates either technical incompetence or arrogant disregard for the principles most crucial for open government, or both.

4. When agencies computerize information - public and non-public - they should absolutely guarantee that all of the information can be "exported" in some non-proprietary computerized form.

In traditional datafiles, that form would usually be as ASCII or EBCDIC records composed of tab-delimited or comma-delimited text fields. For somewhat more complex systems - e.g. that co-mingle text information with binary data - they need to assure that it can, nonetheless, be exported in one or more completely-documented and completely-nonproprietary forms. In the case of relational databases, all of the relational links need to be exported in a well-defined and non-proprietary form, as well as all of the data.

This becomes more difficult with graphics files, perhaps especially with GIS maps and data (geographic information systems) - a very "hot" target for private-sector efforts to monopolize public records and/or their access, especially at the local levels with computerized real estate, assessor and public-works maps held by administrators who are often computer-naive.

Agencies need to assure the complete and non-proprietary export format(s) for three reasons:

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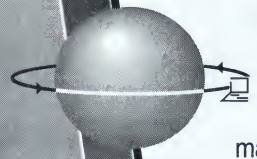

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(1) For their own self-interest, agencies may wish at some point to stop using one database or GIS system or hardware, and upgrade to another more- powerful and/or less-costly hardware or software platform. If they can't move their data, they can't move their operation. Software and systems vendors *love* to trap agencies in proprietary systems with non-exportable files - and have been quite successful at suckering less-astute and more-myopic administrators into it for decades. *Caveat Emptor!*

(2) It is increasingly important that separate and unpredictable local, state and federal agencies be able to exchange computerized information (even when some of us would prefer that they not do so - heh!). Murphy's Law mandates that all agencies that computerize important records in a proprietary format or on a proprietary system without export capabilities will be required to provide that information to other agencies that don't use the same systems.

(3) From the public's perspective - as more and more people obtain the computer power previously available only to large corporations and government - the public should have access to its public records in their most useful format, i.e. computerized. And the public should not be required to purchase or otherwise have access to whatever weirdo proprietary equipment or software may be used by a given agency.

Agencies should be able to provide computerized copies of their computerized public information in a completely-documented and non-proprietary format that does not require specialized hardware or software - other than for the purpose of the actual information-transfer, e.g. a standard diskette or (if worse comes to worst) 9-track magtape or standard data-communications connection.

If an agency's staff are incompetent to do anything better, at the least, they can capture and provide a machine-readable copy of a print-file that they would create in the process of printing a post-forest, pre-landfill paper copy of the requested public records.

5. In fairness to agencies - and to the tax-payers who support them - the public should have no *right* to computerized public records in any formats other than the computer formats that the agency is already using to fulfill its internal functions and official responsibilities, nor processed in any ways other than are used internally.

Just as agencies are required to provide their public records only in English plus perhaps a few other languages that are widely represented in the population they serve, so also should they be only required to provide their computerized public records in one or a very few popular computerized formats — presumably the ones they use, internally.

And most agencies should not be expected to become data-processing bureaus to provide custom information processing for individual members of the public - unless mandated by law, usually with full cost-recovery. (E.g., libraries and schools are often an exception to such a rule.)

If a citizen, community group, newspaper reporter, researcher or corporation wants an agency's information in a form other than the internal and export forms normally used by the agency to fulfill its missions, then it should be the responsibility of the requester to take the information in any reasonable form in which the agency provides it, and convert it and process it on their own - either using their own system, or by paying some service bureau or contractor to do so.

This, incidentally, provides some excellent value-added opportunities for small and large entrepreneurs - who can then become job-producing, tax-paying private-sector community-service companies. And this requires the freedom for non-monopoly, unlimited private-sector reuse of public records.

6. When agencies provide machine-readable copies of their computerized public records - via online connection, or on recording media such as diskette or magtape - they should charge no more than the incremental cost of creating the copies or of distributing the information.

If such cost is less than the total cost of billing, collection and bookkeeping for a given fee, then they should not charge any fee at all.

It is not government's function to make profit — defined as selling products or services for more than their incremental cost of creation and delivery (recognizing that government would not computerize the public's information unless it had a legitimate, internal, not-for-profit need for it).

7. Government should be equally willing to provide computerized copies of one computerized public record, or some of them, or all of them - for no more than the incremental cost of copying or distribution.

Citizens will often have use for only one or a few records. However, the principle of permitting independent citizen oversight of their - our - government requires that members of the public have equal access to any or all public records in their most useful form.

It is an offense to democracy to make citizens' access to the public's information of and about their government, discriminatory on the basis of wealth - and especially for the purpose of agency profit.

And it is an outrage against democracy to permit a private entity to control access to government's information.

*[Jim Warren, founder of **InfoWorld**, was the host of PBS' "Computer Chronicles," and Editor of **Dr. Dobb's Journal** and has chaired various computer organizations.*

He began working as a minicomputer programmer in 1968, holds three graduate degrees and has taught computing at Stanford and other universities.]

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Yes, We Do E-Mail

Whether you need local or wide-area messaging, whether you want shared public conference mail or point-to-point E-Mail, *WILDCAT! IM* can help you do it. Whether you need a simple QWK-compatible network, or our optional MHS and UUCP gateways, *WILDCAT! IM* helps you move the mail.

Yes, We Do LAN Sessions

You don't have to pay hundreds extra just for add-ons to let your LAN users log into the BBS. *WILDCAT! IM* was designed for LAN compatibility from the start. It's this simple: install *WILDCAT! IM* on any network drive. Then run *WILDCAT! BBS* from the DOS prompt at any workstation on the network. Full functionality, including file uploads and downloads across the LAN. Up to 250 simultaneous sessions in any combination of local LAN logins and modem connections. Why do it any other way?

Yes, We Do RIP

RIP (Remote Imaging Protocol) graphics come standard with *WILDCAT! IM*. Users can select menu commands with the mouse, and see graphics comparable to or better than those found on Prodigy or America Online. And we don't make your users give up their favorite professional communications software, either. RIP graphics are fully supported by *QmodemPro*.

Yes, We Do CD-ROM

Of all the new computer hardware developments of the last decade, none have had more impact on the BBS world than CD-ROM technology. CD-ROMs are a perfect way to add huge numbers of files to your BBS. Instead of making you use third-party doors or expensive add-on modules to support a CD-ROM, *WILDCAT! IM* treats it just like another hard drive, showing the CD-ROM files as part of your regular file download areas.

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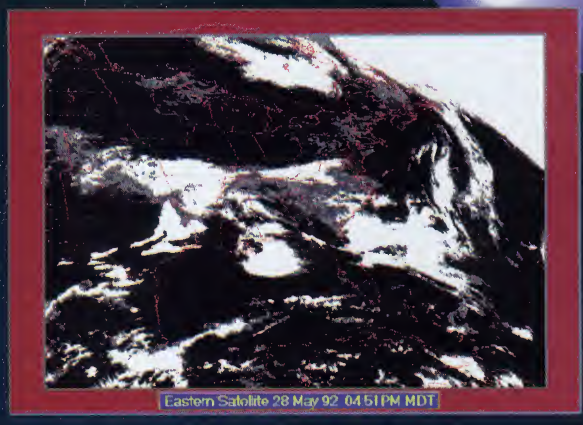

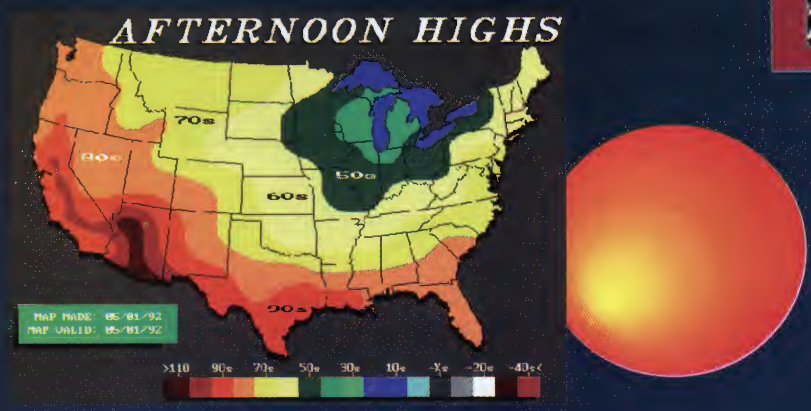

Some of the PLANET CONNECT DATA FEEDS:

RIME, Fido-Net (Conferences & File Areas), NaNet, Major Net, ILink, RoseNet, Intelec, U'n'Inet, Planet Earth, City 2 City, Microsoft, Echo-Net, SmartNet

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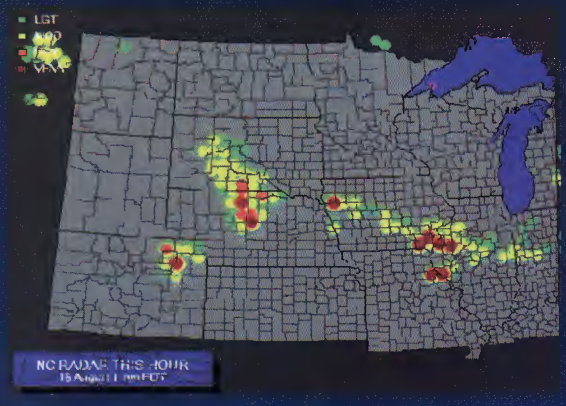

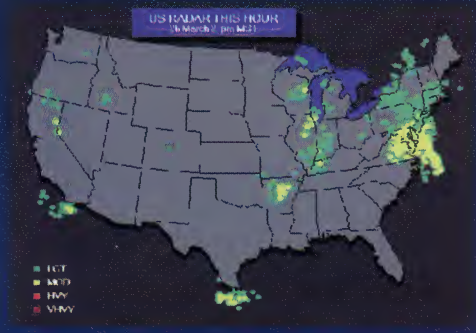

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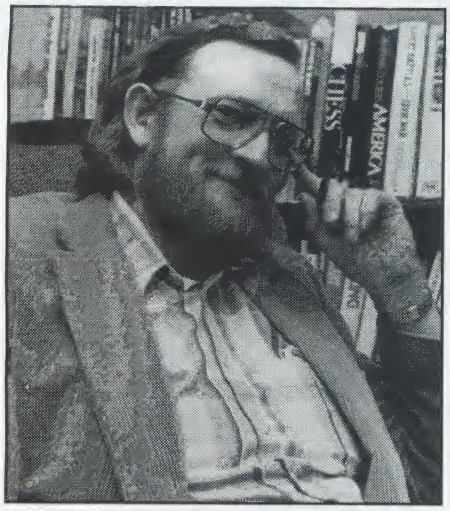
BOWEN ON COMPUSERVE



by Charles Bowen

Forget encyclopedias and instant technical assistance and even CB and the cybernetic singles' scenes. What we REALLY want from online services is help with the big questions, questions such as, "Who in the world recorded that song that's been going through my head all day long?"

Let's say that (for reasons you'd perhaps just as soon not go into) the old song "A Fool Such as I" has been bouncing around your mind ever since you got up this morning. For hours now, instead of the really important stuff you usually think about, you are aware of nothing but this maddeningly familiar disembodied voice crooning, "...now 'n' then thar's a fooool such as I..." You know, don't you, that you won't be sleeping any more until you find out who the heck that is?

Well, the folks in the office might not understand and sympathize, but CompuServe does, and a new database called All Music Guide stands ready to help.

All Music Guide provides data on some 200,000 albums, covering most known forms of music, from country and rap to rock, cajun and the classics. It is said to be largest collection of information on music recordings, ratings, and reviews anywhere. (The guide also comes in other incarnations, including a 1,200-m page book, a CD-ROM disk and an online service licensed by music retailers such as Phonolog, Muze Systems and Musicland.) Accessible is information on albums, biographies, and miscellaneous music resources like magazines and books.

For the insomnia quest in our example, we access the feature (**GO ALLMUSIC**) and at the introductory menu we select the option to hunt for albums. The next menu invites us to search (or later to narrow a subset of located records) by artist or group, album title, rating, top pick, sidemen, song title and/or genre. We select Song Title and, when prompted, enter "Fool Such as I."

In a moment, All Music finds 21 albums of possible interest, recordings by performers ranging from Buddy Holly and Waylon Jennings to Rick Springfield, Miles Jaye and Bob Dylan.

Actually, though, on closer inspection, we find the database has zeroed in on titles that also are JUST CLOSE to the one we've specified. (For instance, it put Waylon Jennings' 1979 "What Goes Around" album on the list because it contains a cut called "Another Man's Fool." Springfield's 1982's "Success Hasn't Spoiled Me Yet" album was ticketed because it includes "What Kind of Fool Am I.")

But we find more than half of our list of 21 albums is made up of Elvis Presley recordings (from 1956 to 1986). Examining these files shows us that each of the cited albums includes the very song we're searching for. Thanks to this information — thankya, thankya ver'much — we suddenly recognize the voice in our head. All along it has been a message from The King.

Data retrieved from All Music Guide ranges from merely titles and record company catalog numbers to full-blown reviews with song lists, artist bios, sidemen and more. The database is menu-driven and frequently updated. It is part of CompuServe's extended services, meaning usage is charged at hourly connect rates. However, it is not additionally surcharged, as some other CompuServe databases are, so it is a welcome new browse-able feature for us audiophiles.

GRAPHICS GALORE

Lately, the staff of Larry Wood's extensive graphics forums (**GO GRAPHICS**) has been bringing new kinds of images online. For example, a deal with the State Historical Society of Wisconsin, a famed American history research center, has brought to the Graphics Gallery Forum (**GO GALLERY**) a collection of 19th and 20th century photos, as well as contemporary images of historical items in the facility's massive collections.

Also the Dallas Museum of Art has added digital images of its permanent collection to the Fine Art Forum (**GO FINEART**), which also has an electronic collection of other paintings from old masters (and new ones too).

SYNDICATED COLUMNISTS

The newspaper world's United Features Syndicate is introducing a bevy of well-known columnists to the electronic audience. Included are daily and weekly columns from Jack Anderson, Alan Dershowitz and Harvey MacKay, as well as The Aces on Bridge, Miss Manners, The Housing Scene, The Medical Advisory, Tune in Tonight and You be the Critic. To check it out, enter GO COLUMNS.

SOUND BLASTER SUPPORT

Creative Labs, the people who brought us the Sound Blaster audio technology, has opened a new forum. The Creative Labs User Support Forum (**GO BLASTER**) supports the company's line of audio cards, as well as CD-ROM drives and theVideo Spigot and Video Blaster capture cards

POWERPC PEOPLE

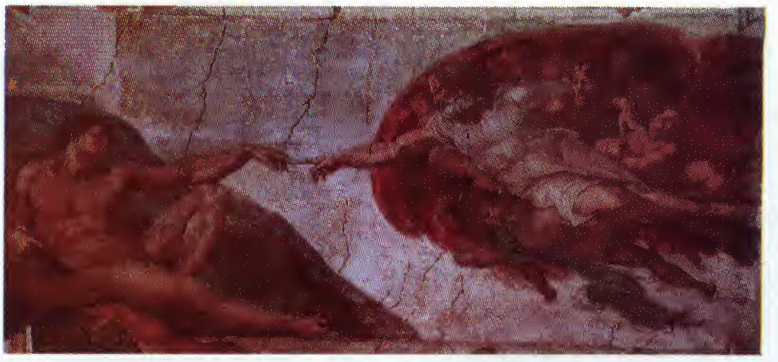
Interested in this new PowerPC chip developed by IBM, Apple and Motorola? You might want to look in on the new IBM PowerPC Forum (**GO POWERPC**) which is intended to support systems built around the new processor.

GOP GOES ONLINE

Just when you thought the Democrats were hogging "the Information Superhighway," here come the Republicans. A year after the establishment of the Democrat Forum (**GO DEMOCRAT**) and the White House Forum (**GO WHITEHOUSE**), the GOP National Committee has launched the Republican Forum (**GO REPUBLICAN**). Besides press releases and talking points, the forum provides in its libraries "Rising Tide" (the Republican National Committee's new bimonthly magazine), the RNC's Monday Briefing (a weekly newsletter for party leaders and activists), and reports from Capitol Hill.

SYBEX FORUM BEGINS

Sybex Publishing, one of the world's major independent publisher of computer books, with affiliates in France, Germany and the Netherlands, has opened the Sybex Publishing Forum (**GO SYBEX**). Look for Sybex authors to regularly visit. Also, the company's technical support staff promises to monitor the message boards to assist in accuracy.



MORE 14.4K CONNECTIONS

Finally, to those who do most of their modemming on BBSes and Internet's fast lanes, CompuServe (and all the other commercial services, for that matter) must seem about as sprightly as a foggy Monday morning traffic jam. It is true that until recently CompuServe was still referring to 9600 bps as "high speed" and that some cities along the CompuServe network are still hoping for upgrades that will allow their local nodes to log-on at even THAT nose-bleed speed. On the other hand, CompuServe does show signs of aspiring to a higher order of zippiness. By the end of this month, it promises access at 14.4 kilobits per second (kbps) from 60 cities. It also announced it is testing access at 28.8 kbps which will be available from selected cities later in the year. The spread of faster access nodes, coupled with CompuServe's new rates (the service dropped 14.4K access from $16 to $9.60 an hour, effective last month), may enable you to cut costs in a new way.

A friend of ours lives in a town with no CompuServe node at all. He used to call long distance to a city across the river in another state just to log in at 2400 bps. However, he's found it cheaper to call all the way to Columbus, Ohio (hundreds of miles away) to log in at 14.4K. Even with the higher long-distance phone rate and the higher connect time charge, he saves money because the online session with his new faster modem can be completed six times faster. That's smart telecomputing.

*[Charles Bowen is the author of **CompuServe From A to Z**, published by Random House. He also is co-author, with David Peyton, of **How to Get the Most Out of CompuServe**, also from Random House.]*

CITIES WITH 14.4KBPS COMPUSERVE ACCESS

Albany (N.Y.)
Atlanta
Austin (Texas)
Baltimore
Boston
Cambridge (Mass.)
Charlotte (N.C.)
Chicago
Cincinnati
Cleveland
Columbus (Ohio)
Culver City (Calif.)
Dallas
Denver
Detroit
Durham (N.C.)
Fairfax (Va.)
Ft. Worth (Texas)
Hartford (Conn.)
Houston
Indianapolis
Kansas City
Los Angeles
Memphis
Milwaukee
Minneapolis
Morristown (N.J.)
Nashville
New York
Newark (N.J.)
Newport Beach (Calif.)
Oklahoma City
Orlando (Fla.)
Philadelphia
Phoenix
Pittsburgh
Pleasant, Hill (Calif.)
Portland (Ore.)
Providence (R.I.)
Raleigh (N.C.),
Rochelle Park (N.J.)
Rochester (N.Y.)
Sacramento (Calif.)
Salt Lake City
San Diego
San Antonio (Texas)
San Francisco
San Mateo (Calif.)
Santa Clara (Calif.)
Seattle
St. Louis
Tampa (Fla.)
Toronto
Van Nuys (Calif.)
White Plains (N.Y.)

At least five more cities — Deerfield Beach, Fla., Hicksville, N.Y., New Orleans, Provo, Utah, and Richmond, Va. — were expecting the 14.4K upgrade by the end of March.

MACINTOSH BBS NEWS

by Bill Gram-Reefer

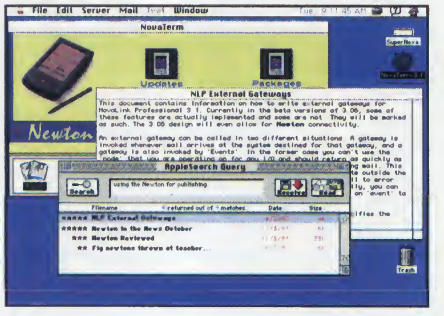
RESNOVA UPGRADES NOVALINK

Expected to ship in early 1994, ResNova has announced version **3.1** of its **NovaLink Professional** information server for Macintosh. According to Jon Kantor, "overall, ResNova has redesigned memory utilization and increased the file-transfer

speeds to greatly improve the performance of NovaLink.

A significant new feature is support for UUCP Internet access through an external program developed and supported by a top-flight third-party publisher. Other additions include the support of AppleSearch (See Boardwatch December, 93). A new front-end to InfoLink, a standard feature built-in to NovaLink that lets users send and receive mail from other NovaLink servers, now provides for automated scheduling of mail tossing events across the net.

NovaLink Professional 3.1 has greatly enhanced its automatic menu and screen generation to assist customization of each system. By dragging (or removing) new forum or library icons into the folder representing the system, NovaLink automatically generates RIP graphics to support DOS clients. This capability lets sysops rearrange complex layouts without having to redo entire custom screens. Another improvement includes the addition of Group assignments that, in combination with NovaLink's existing Access Levels, gives sysops even



greater flexibility in assigning privileges and access within a system.

Base price for NovaLink Professional 3.1 begins at $300 for a 2-line system supporting unlimited RIP and 20 NovaTerm users. Upgrades to 3.1 from versions prior to 3.0 are priced at $95, while 3.0 users will receive a free software upgrade plus optional, minimal fees for new documentation. Contact **ResNova Software**; 5011 Argosy Drive, Suite #13 Huntington Beach, CA 92649; **(714) 379-9000** voice; **(714) 379-9004** bbs; **sales@resnova.com** Internet.

ANOTHER GATEWAY FOR FIRSTCLASS

FirstClass (FC) sysops now have a wealth of sources when it comes to choosing a UUCP gateway for accessing Internet mail and USENET newsgroups. First there was Postal Union, then Information Access HoloGate:FirstClass/UUCP, and now SoftArc's own **UUCP Internet Gateway**. Priced at $495, the FC UUCP Gateway allows for personal mail between FC users and the Internet and allows for the replication of any number of USENET newsgroups within a FirstClass server. However, for a limited time, FC UUCP Gateway is available at a greatly reduced price for those sysops that wish to trade in a competing UUCP Gateway. With a competitive trade-in, SoftArc's product is reduced to $95.

SoftArc's UUCP Gateway supports: "t" and "g" protocols, batched and compressed incoming news and independent scheduling, configurable font, color, and styles; optional positioning of Internet headers within messages, separate handling of text attachments, and aliasing. It also provides for threading, individual signatures, background operation, and the ability to configure warning and error message displays. When installed on a system with a dialup connection through any commercial provider, the UUCP Gateway automatically polls both FC and the Internet periodically sending and receiving mail and on-the-fly translating as necessary.

The FC UUCP Internet Gateway can be purchased directly from SoftArc or from one of its authorized Certified Consultants. **SoftArc Inc.**; 805 Middlefield Road, Suite 102 Scarborough, Ontario Canada M1V-2T9; **(416) 299-4723** voice; **(416) 609-2250** bbs.

SPIDER ISLAND EXPANDS TELEFINDER

Spider Island Software began shipping version **3.2** of its **TeleFinder BBS** software for the Macintosh in January, 1994. TeleFinder 3.2 now gives users the ability to view GIF files in addition to PICT format files and their captions while online, providing the opportunity to automatically decompress and view graphics files while downloading them.

Additionally, TeleFinder 3.2 now includes built-in drivers for V.Fast modems from Hayes, US Robotics, and Microcom. V.Fast is an emerging standard for 28.8 Kbps modems. When using V.Fast-compatible modems and V.42bis compression, TeleFinder is capable of achieving file transfer rates exceeding 100,000 bits/sec. The scripts provide users with precise modem wake-up and initialization commands

to ensure automatic dialing and easy logons.

TeleFinder 3.2 now optionally supports Windows users with TeleFinder User for Windows and Internet Mail access via InterFinder. Spider Island's TeleFinder User for Windows retails at $250 in addition to the host software, and permits unlimited distribution of the client software. InterFinder will retail at $395 and is available from Spider Island Software or Micro Frame. TeleFinder's retail price for the Macintosh host supporting unlimited lines and users is $425. **Spider Island Software** can be reached at 4790 Irvine Boulevard, Suite 105-347, Irvine, CA 92720; **(714) 669-9260** voice; **(714) 730-5785** bbs. Andreas Fink can be reached at **Micro Frame**, Oberdorf 123, 8934 Knonau Switzerland; **(41) 1-776-8017** voice; please note time difference; **(41)-1-776-8017** (Box4 TF bbs); **fink@box4.microframe.ch** Internet.

NEW MACNEWS

Matthew Hall, developer of **MacNews**, a shareware Net News Transport Protocol (NNTP) news reader for non-TCP Macs, has announced **MacNews 1.1**, a new version that fixed a variety of shortcomings in the initial version. The new version includes improved support for 68000 Macs, adds support for hardware handshaking for use with high-speed modems, and improved support for removing sites from user-configurable lists.

MacNews provides a Macintosh interface for readers of USENET news that allows for cut and paste and other Mac-like manipulation of files and threads. All you need is a connection to a NNTP site and MacNews does most of the rest. For instance it will read, post and follow to and from threads, and let you subscribe, unsubscribe and generally maintain newsgroups and their listings. You can save or append articles to a file, as well as insert, cut, copy, and paste when composing. MacNews keeps track of several sites and provides a default setting and online help. MacNews is $15 shareware via check or money order to Matt Hall 4 Wood Duck Lane St. Paul, MN 55127.

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To Order, Call: (404) 924-8667
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ADD COMMENTS TO FC FILES

Peter Bierman has created a $5 shareware program called **FC 2 Clip 1.0**. It's a 443-byte System 7+ utility that lets you create an FKEY using ResEdit. This FKEY will let you view a file's comments in the clipboard and let you copy and paste it to other areas of the board where the file may reside. According to the Bierman, "since FirstClass doesn't store the message contents and the file comment in the same place, when you move a file from the Uploads conference to a folder, you just hope that the user typed the comment in both places. Here's a solution:

"Have your users use a utility called TFCommenter or just Stuffit's built-in comments. This stores the file description as part of the file, in a resources. When you get the file, you use the FKEY to copy the description to the clipboard, and then you can paste it into the message in your uploads section. If no comment resource is found, FC 2 Clip reports 'No Comment Found.'"

Bierman originally created FC 2 Clip for The Metropolis BBS. He is a high school student who very much would appreciate users sending him the $5 shareware fee so he can save for college and be kept in the coke-and-potato chip custom he's used to. Your patronage might also encourage him to pursue the development of a larger project: an application that collects all embedded data and creates a file catalog for FirstClass or TeleFinder BBSs. This utility could also add a "Downloaded from "Your BBS listed here" tagline to all comments. Cool. Send it..**Peter Bierman** P.O. Box 141 Worthington, OH 43085.

FIDO MAIL TOSSER FROM DELPHIC

Delphic Software has released Aeolus, its new FidoNet mail tossing package for the Macintosh. Used in conjunction with Formula1, the Fido mailer by Massimo Senna, or other TabbyNet call-out modules, Aeolus provides a comprehensive set of features for just $65.

The package lets users convert an entire Tabby setup over to Aeolus quickly and easily. Generic II Macintosh FidoNet file aware, the program is compatible with all Macintosh BBS programs that support the use of Tabby, and includes built-in area management and pass-through capabilities. Aeolus v1.1, offers complete multizone capabilities, including the ability to specify a different node number for each echo area. Furthermore, Aeolus v1.1 allows the sysop to map NetMail addresses to various nodes and define specific tag lines for each echo mail area. Aeolus also supports both Host-routing and Routed NetMail, and automatic arcing and dearcing that lets sysops toss up to 10 messages per second on a SE/30. An upgrade path for users already using Formula! includes a $15 rebate; just mail in your original Tabby disk.

Joining MacKennel (Boardwatch November 1993), Aeolus becomes the second of a new generation of Macintosh FidoNet mail products that have begun to fill in the gaps left in the passing of Tabby. Delphic Software specializes in external programs for Macintosh BBSs. Known for their support of Hermes II BBS System, Delphic has created over 18 active externals, many of which are freeware. Their most publicized external is Merchant!, the Macintosh BBS Space Opera.

Delphic chose Aeolus as the name for its FidoNet mail tosser as the Greek God Aeolus was the God of the Winds. Seeing as the company name is Delphic Software, and how the future of Ancient Greece was supposedly foretold by the the Delphic Oracle as wind rushed through the trees near Mount Olympus, Aeolus became a fitting name. (According to Mark Marshburn, the Mount Olympus part has nothing to do with Hermes, it is just a coincidence. . .Hmmm!)

According to Marshburn, "Aeolus is a wonderful step forward in the way of FidoNet mail processing for Macintosh computers. Tabby, which was a fantastic base for the Macintosh FidoNet community, had reached it's climax in the Mac world. Something new had to come along, and it looks like Craig (Vaughan) and I were more than willing to be a part of that something. In terms of how Aeolus compares to Tabby and MacKennel, I would have to say that it is, in every way, superior to Tabby. Aeolus' speed easily supersedes the speed Tabby ever offered us, and the setup of the program is much cleaner, and much more Mac-like than Tabby."

Marshburn believes Aeolus is v1.1 is as powerful as MacKennel Version 3, and at almost 1/5th of the price. Of course, Aeolus does require Formula1, but its Delphic's understanding that it would not be particularly intelligent to write a completely new calling module for the Macintosh, when F1 does the job.

As for FidoNet and the future of Macintosh BBS networking, Marshburn expressed mixed feelings. "Maybe this is somewhat hypocritical on my part, but I do not believe that Fido is the way to go. The technology just isn't there for it to support too many more networks. The organization is also lacking in many areas. What we need is a massive way of looking at the FidoNet system of managing things. With minor modifications to the packetization process of FidoNet packets, and a definite standard of routing, FidoNet could empower the standard BBS operator with a network equaling that of the InterNet, but on a smaller scale.

"OneNet is not the way to go either. OneNet unfortunately lacks any sort of structure, as can easily be seen by the numerous number of network loops detected every day. At one point Delphic Software had assembled a massive global networking proposal that could be implemented on any computer system, and with any BBS package. This networking plan we had devised would easily create the 'perfect' network. However, we didn't feel that after such a long time with FidoNet, there wouldn't be much of a movement to a new system, hence our plan was filed away for a later date.

"All in all, I think that we're going to have to find a better way of networking the world. The InterNet is great, but it's too large and expensive for the amateur BBS operator. Some day, the size of FidoNet will get to the point where it will completely burst, and that is when a new network will be formed, until that time we can only wait and wonder." **Delphic Software** ATTN: Aeolus; P.O. Box 7604 Redlands, CA 92375-0604; **(909) 792-4902** Mike Marshburn at **PUMA BBS**; delphic sw AOL.

A SECRET WORLD

In the January issue we looked at Mac's Last Stand, a FirstClass BBS worthy of the name located in Rochester, NY. We return to that upstate hotbed of Mac BBS activity to take a first look at Secret World BBS (Secret), a new board running NovaLink Professional 3.1. Alex Hopmann, president of ResNova, suggested Secret World because he thought it was one of the leading NovaLink boards in terms of custom configuration, use of graphics and icons. Well, yes and no, and more to come, hopefully this bbs will not remain a secret for long.

Sysop Robert (Doogie) Vreeland, a full-time Information Technology student at the Rochester Institute of Technology has pieced together an interesting system and was still working out some pre-release 3.1 bugs when I took a look around the New Year. I felt like I was walking around the backstage of a rock and roll production two days before a major show. It was if I could trip over the loose wires on the floor and see and hear blue-jeaned roadies patching cable or hanging from light girders loudly shouting "testing one, two, three," and "a little to the right" above the din of crates and risers being pushed across center stage. Every once in a while, though, you'd hear a promising riff from the dressing room down the stairs.

Equipped with a IIsi with 160-Mb internal and 345-Mb external drives, Doogie has added an Apple CD-300. By the time you read this, you'll probably be able to logon at V.fast speeds as Doogie plans to upgrade to the $288 Hayes sysop deal as he expands from two to four lines. One of the first sysops to run NovaLink Professional 3.1, Doogie has put together a colorful yet quirky ResNova board.

Using NovaLink's custom graphics package, Secret's first screen comes at you with news about the system and new files, then you continue onto the main screen using NovaTerm, the client package full of cookie-monster sounds and other bells and whistles. While mainly graphical, the read-me bulletins from the sysop scrolled by in reversed red and black and blue and yellow texts and formats. It was a dizzying experience and made me think, "oh no, ANSI color graphics pre-

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Yes, you read correctly! Welcome to my very own bbs.
As a charter member of my board, you're entitled to have a great time!

>>>LINDA'S CONFERENCE:

LJONES [Lulu]: Hey, great bulletin board, Linda! Thanks for the invitation to join!

LWILLIAMS [Linda]: You're quite welcome. Glad you could make it!

BDAVIS [Big Bad Bob]: So, how'd you pull this off? (envious smile....) Your own forum on a national online network?

LWILLIAMS [Linda]: Yeah! NVN offers private forums to any group who needs a place to communicate. I told them my friends and I were looking for a new home. They set up my own forum! I've got a private message base, conferencing and even our own private data libraries for exchanging files. <G>

GSTUTZ [GailTheGale]: Not bad! We also get access to all of NVN's other services. Games, forums, chat, business info. There's dozens and dozens of forums out there. I love playing MUD II!

HBENSON [Vrrroooom!]: Linda, do you think I could get a forum for my stock car racing buddies? We're looking for a way to communicate.

LWILLIAMS [Linda]: Absolutely! Give them a call at **1-800-336-9096**. It's easy!

LJONES [Lulu]: Hey, I'm gonna go play MUD II! Talk to you later! :)

We supply the hardware, the bbs, and dial in access across the nation. You supply the friends.

For more information on setting up your own bulletin board, contact NVN at **800-336-9096**.

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To register on-line, set your comm software to 1200, 2400 or 9600 bps, N-8-1, and full duplex. **Dial 1-800-336-9092.** When connected enter BW94CS and press <RETURN>. Then enter name, address and Visa,® Discover® Card, MasterCard,® American Express® or EFT number. Your Starter Kit will be mailed right away.
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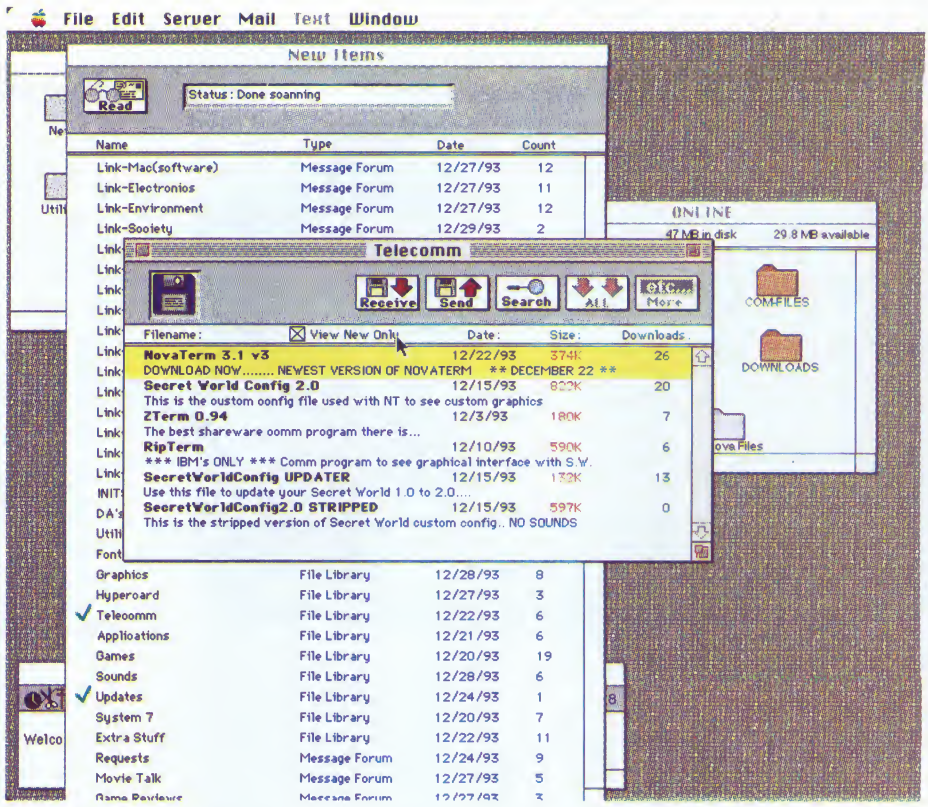
tending to be a graphical user interface." But it's not that bad. In fact, with the RIP screen generator, new with version 3.1, Doogie did his best, I think, to make Secret look half text-based and half graphic, and depending on your tastes and what you're used to, that ain't bad compared to most of the nastiness you see on DOS-based BBSs.

All of the main screens were laid out with custom graphics representing each section. Not exactly icons, more like ANSI push buttons, I navigated easily down each path that revealed subsections. The main conferences included areas for culture (some Secret users don't think Rochester has much), adult chat, sports, technical, and general discussions. Secret should have a Fido node soon and has visions for some sort of Internet link towards the end of this summer.

More importantly, Doogie has already linked together six other NovaLink sysops into LinkNet, a budding network of NovaLink sysops aiming to create an ad hoc, come-as-you-are TwoNet. The LinkNet carries networked conferences on topics including bbs, politics, anarchy, music, newton, hockey (don't forget this is upstate NY!), money, electronics, programming and photography. Doogie calls it a "Hobby" net because it's more a low-key "let's figure this out and have fun doing it adventure," rather than some grandiose mission-from-God typical of positivists since Auguste Comte and Mac fanatics in particular since 1984.

The exciting aspect of Secret World is its vision to be the first great Mac BBS to offer online games. Lots of them. I visited the Dating Game, but Lisa Lovelips was at lunch. This appears to be a chat area with a window to view PICT files of whoever you want to correspond with. Of course, those PICTs can be fictional, bawdy, or suggestive so have your I.D. ready to be checked at the door. Other games included online poker (someone owes me $350), Netris, Blackjack, Space Invaders and more. While poker and Netris had a graphical look, some of the other games like the Blackjack were pretty lame, being no more than text-based asterisks and other characters zipping about a small window, or a running narrative of your hand; I mean "dealer holds a 6 and a 10, and you hold a 3 and a 7" is not the best way to beat the house, especially when



you draw an ace for 21 and the program thinks you only have eleven. Doogie promises more to come, as he and other sysops plan to write their own games, while rumors fly concerning an update to Merchant.

Online games provide one of the greatest potential growth areas for Mac BBSs and we expect to see efforts equaling and surpassing DOS-based online games. Why not create a version of Liza to offer inane, R-rated chit-chat with the sailors in the waiting room of the Dating game? I've also thought that something like Changeling Software's Pax Imperia would be a natural, but let's see what Craig Vaughan comes up with, too. With V.fast signal speeds and a pumped-up user file that could store some of the base graphics on the client's terminal, it's not unthinkable that Mac BBSs from First-Class, ResNova, and Spider Island all could support some exciting, real-time, multi-user play real soon.

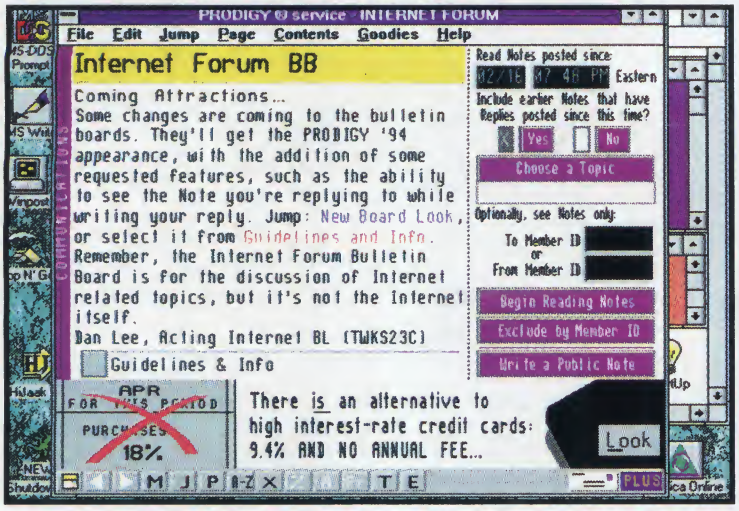
Secret World offers non-donating users 30-minute/day access. Donator status gives you a chance to rap with Lips if she's in, and access to the online games and easier access via dedicated lines. Donation is $15. You can write Robert Vreeland at 20-3 Colony Manor Drive in Rochester, NY 14623 or logon and register by tuning your modem to (716) 292-5918.

ATTENTION MAC SYSOPS

Ante up! If you have a Macintosh-based BBS, let us know who you are and what you think you're doing that makes your board special, even if there's a goat behind door #2. To make things easier, mail a diskette containing your user program with a preset account, time allotment and password to the address below so I can log on and beat the bank playing online poker. Also include a text-file that describes your board and any places on it you think are way cool. I'll put my visor on and try to visit as many boards as possible and bluff my way to an inside straight. MAC BBS, 2069 Highland Drive, Concord, CA 94520.

[Bill Gram-Reefer, based in Concord, CA, is president of WORLDVIEW, specializing in connectivity and communications. Bill has been writing about Macintosh computers since 1984. E-mail Bill at: **wk05156@worldlink.com***]*

PROWLING PRODIGY



by Ric Manning

Once ridiculed as the frothy fast food of the online world, Prodigy has lately begun to offer its users a much more robust diet. Late last year, the service took several long steps into the computing mainstream:

* It created a snappy Windows-based front end that is as clean and friendly as anything available for CompuServe or America Online.

* It put some much-needed horsepower behind the system by greatly expanding 9600-bps access.

* And, after resisting electronic mail links to other online services, Prodigy finally built an e-mail bridge to the Internet.

The three initiatives have helped Prodigy improve relations with its subscribers, who gave the service a verbal pasting last summer when Prodigy instituted per-minute charges for access several popular features, including bulletin boards.

The Windows front end was an immediate hit. According to Prodigy, more than 300,000 downloaded the new software, ordered it direct from the company or bought it retail in the first month after it was released.

Windows gives Prodigy a clean, uncluttered look without all the puzzling icons and buttons that characterize other front ends. All options are available from pull-down menus and Prodigy's graphics look great on a VGA screen, especially when they arrive at 9600-bps.

Unfortunately, Prodigy's connection to the Internet is not integrated into the new interface. DOS users have to download a separate software ($4.95 and about 9 minutes online at 9600 bps) called Mail Manager and drop out of Windows to use it. Mail Manager is crisp and easy to use, but not as easy as it would be if it were part of the regular Prodigy package.

Nevertheless, Internet mail have been a big hit with subscribers. Since the link was installed late last year, Prodigy said it was getting up to 200,000 messages a month and has expand capacity of the pipeline.

To support Internet access, Prodigy launched a special bulletin board hosted by Brendan P. Kehoe, the author of "Zen and the Art of the Internet." A stroll through some of the postings shows that many Prodigy subscribers don't quite understand the arrangement. Many are asking how they can join the Internet or log on to remote computers. The short answer is: they can't.

Quake & Bake

Aftershocks were still rumbling through Southern California when Prodigy opened a free bulletin board section devoted to the Jan. 17 earthquake.

The following day was the second busiest ever for the service with members logging on more than 813,000 times and posting more than 11,000 notes in the first 24 hours.

"A lot of people are calling (online services) the ham radio of the 90's," said Prodigy spokeswoman Carol Wallace.

With long-distance phone lines overloaded or out of service, Southern Californians used Prodigy and other services to communicate with friends and family members in other parts of the country.

"People just jumped in and volunteered," Wallace said. "They would

post a note saying they would cover a certain area code. Somebody else would take another area code."

During the San Francisco earthquake, a woman in a damaged area couldn't reach her son at Fort Riley, Kan., to tell him she was safe. She posted a note on Prodigy and a student in San Diego tracked down the soldier.

Prodigy's 24-hour news department updated wire-service reports on the quake and integrated first-hand accounts posted by Prodigy members. It also created color maps and posted photographs on the service.

CompuServe also had a special earthquake board in operation after the quake as part of its extra-cost services. Prodigy, however, waived connection charges for access to its earthquake boards.

"Most people were pretty good about not abusing it," said Wallace. "But we did get a few teenagers who posted notes saying "I'm board. Does anybody want to chat?' "

The free access is over, but Prodigy continues to monitor post-quake activity by working with the California Department of Transportation to create and post traffic-flow maps and suggestions for alternate commuting routes.

The earthquake that rocked Prodigy itself last year was the reaction to Prodigy's decision to implement a per-minute fee for access to many of its popular service, particularly the bulletin boards.

Subscribers who were attracted to the service by its all-you-can-eat policy railed that they had been betrayed and vowed to cancel their membership.

"We did have a dip over the summer," said Wallace, "and we had to work our way back up through the fall. But we're definitely back up now."

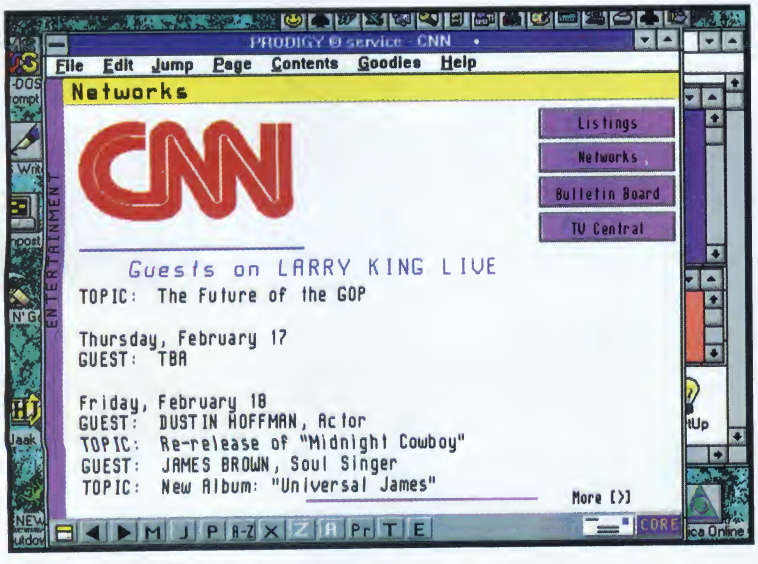
Prodigy now claims over 2 million members.

As a concession to the bulletin board mavens, Prodigy now offers a 30 hours of access to Prodigy's Plus services for $29.95 a month. For regular customers, Prodigy has also dropped its sliding scale of fees for advanced services in favor of a flat rate of $3.60 an hour above the regular monthly fee.

Tube Talk

A total of 20 cable television networks now use Prodigy to promote their programs and solicit viewer feedback.

The latest to join the lineup are the five services owned by Turner Broadcasting System Inc.: CNN, Headline News, WTBS, TNT, and Cartoon Network. The networks are American Movie Classics, Bravo, Comedy Central, CNBC, Country Music Television, The Discovery Channel, E! Entertainment Television, Encore, Jones Computer Network, The Learning Channel, Mind Extension University (ME/U): The Education Network, The Movie Channel, The Nashville Network, Showtime, and The Travel Channel.



The networks use Prodigy to list program highlights, run viewer polls and manage bulletin boards which allow viewers to send comments to a network and communicate with each other.

Prodigy Goes To School

Prodigy is moving in the nation's schools with a special service called Classroom Prodigy, an educational network for grade schools and high schools.

The service includes many of Prodigy's regular educational features, such as its NOVA, National Geographic, Sesame Street and Reading Magic programs plus special features. "Mountain Challenge" is an online field trip to climb a peak in Antarctica. The service will also have a special project related to the Space Shuttle launch in April.

Prodigy officials say that Classroom Prodigy does not include online commercials or access to Prodigy's shopping areas.

Schools and teachers can subscribe to Classroom Prodigy for a flat fee based on 10, 25 or 100 hours of use per month.

[Ric Manning covers computers and technology for ***The Courier-Journal*** *in Louisville, Ky. He is the former editor of Plumb and Bulletin Board Systems newsletters and his work has appeared in several computer magazines. His column on computers and consumer electronics is syndicated by the Gannett News Service.]*

BBS SOFTWARE VENDORS

Product	Company	Voice	FAX	BBS	Platform	Tele Lines		MultiTasker	LANLogons	FIDO	Internet	QWK	Other	Chat	Price:MAX	Price:MIN
						LAN	PC									
CNet Pro 3	Perspective Software	313-537-6168	313-537-5942	313-255-2466	Amiga	Unlim	100	OS	Y	I	I	I	J	Y	$229.95	$229.95
CocoNet	Coconut Computing, Inc	619-456-2002		619-456-0815	UNIX	1000	-	OS	Y	N	I	N	N	Y	$18,995	$395
DLG Professional	Telepro Technologies	403-341-7826	403-341-7826	403-347-3262	AMIGA	Unlim	29	OS	N	I	3	3	N	Y	$299	$299
DLX	Baudtown	818-894-4150	-	818-893-7600	DOS	?	32	I	N	N	N	N	N	Y	$995	$395
EXCELSIOR! Pro BBS	Sycom Design Software	313-774-2153	313-772-5802	313-772-6442	Amiga	Unlim	Unlim	OS	N	I	3	I	N	Y	$199	$199
FirstClass	SoftArc, Inc	416-299-4723	416-754-1856	416-609-2250	MAC	100	22	OS	Y	3	O	N	I	Y	$3450	$95
GAP	GAP Development Co	714-496-3774	714-496-3774	714-493-3819	DOS	100	16	DV	Y	3	3	I	Y	Y	$359	$79
Hermes II	Computer Classifieds	206-643-2316	206-643-7830	206-643-2874	MAC	10	10	OS	Y	3	3	N	N	Y	$95	$95
hi-BBS	XBR Communication	514-489-1001	514-489-4966	514-489-0445	MAC	130	?	OS	Y	N	O	N	N	Y	$3,400	$70
Kitten	TelPro Technologies	804-442-5865	-	804-442-5867	DOS/OS2	999	?	OS	Y	3	3	N	N	Y	$195	$195
Magnum BBS	Gilmore Systems	805-379-3210	805-379-1340	805-379-3450	OS2	64	?	OS	Y	N	N	I	N	Y	$900	$75
MEGAHOST	ASCII Computer Enterprises	-	-	209-836-2402	DOS	10	8	DV	Y	3	3	3	N	Y	$49	$49
Multi-Net	Multi-Net Communications	503-883-8099	503-883-7879	503-883-8197	OS2	999	12	OS	Y	N	N	I	N	Y	$895	$195
Novalink Professional	ResNova Software Inc	714-379-9000	714-379-9014	714-379-9004	MAC	Unlim	40	OS	Y	3	I	N	N	Y	?	$300
OPUS-CBCS		214-528-4687	-	214-528-4943	DOS	255	1	DV	N	I	3	3	N	Y	Free	Free
PCBoard	Clark Development, Inc	801-261-1686	801-261-8987	801-261-8976	DOS	1000+	16	DV	Y	I	3	I	3	Y	$10,000	$170
Powerboard BBS	NUIQ Software, Inc	914-833-3479	914-833-3623	914-833-1479	DOS	999	8	DV	Y	I	3	I	N	Y	$2300	$99
ProBoard	ProBoard International	612-537-8655	612-537-8613	612-537-8659	DOS	255	8	DV	Y	I	N	I	N	Y	$49	$49
ProLine	Morgan Davis group	619-670-0563	619-670-9643	619-670-5379	APPLE II	1	1	-	Y	N	I	N	N	N	$159.95	
Remote Access	Wantree	913-441-1336	913-441-0596	913-441-0595	DOS	250	1	DV	Y	3	-	3	N	Y	$529	$149
RoboBoard/FX	Hamilton TeleGraphics	800-363-7626	819-685-0994	819-682-7771	DOS	255	8	DV	Y	3	O	N	N	Y	$400	$95
RY BBS	The Ryco Company	414-962-5967	-	414-962-1097	DOS	9	4	DV	Y	O	N	3	N	Y	$175	$75
Sapphire	Pinnacle Software	514-345-9578	514-733-8644	514-345-8654	DOS	1	1	-	N	N	N	N	N	Y	$45	$45
Searchlight BBS	Searchlight Software	800-780-5483	216-631-9289	216-631-9285	DOS	Unlim	10	DV	Y	I	3	3	3	Y	$399	$99
Second Sight Software	Scott Watson, FreeSoft Co.	412-846-2700	-	412-846-5312	MAC	2	2	OS	Y	3	N	N	N	N	?	$199
SpitFire BBS	Buffalo Creek Software	515-225-9552	-	515-225-8496	DOS	255	1	DV	Y	3	3	I	N	Y	$85	$85
Synchronet	Digital Dynamics	714-529-6328	714-529-9721	714-529-5313	DOS	250	10	DV	Y	I	3	I	N	Y	$399	$99
TBBS	eSoft, Inc	303-699-6565	303-699-6872	303-699-8222	DOS	-	64	I	N	O	3	O	N	Y	$1995	$295
TEAMate	MMB Development Corp.	310-318-1322	310-318-2162	310-318-5302	UNIX	Unlim	-	OS	Y	N	O	O	N	Y	$125,000	$2,000
Telefinder	Spider Island Software	714-669-9260	714-669-1383	714-730-5785	MAC	200	20	OS	Y	3	3	N	N	Y	$2,000	$425
The Major BBS	Galacticomm, Inc.	305-583-5990	305-583-7846	305-583-7808	DOS	256	256	I	Y	3	O	O	Y	Y	$10,717	$259
TinyHost	Bruce Krobusek	716-924-8284	716-924-4193	716-924-4193	DOS	1	1	DV	N	N	N	N	N	Y	$25	$25
Virtual BBS	Virtual Technologies	210-787-2443	616-399-8934	616-399-4818	DOS/OS2	1024	16	DV	Y	I	3	I	I	Y	$999.00	$99.00
Wildcat!	Mustang Software, Inc	805-873-2500	805-873-2599	805-873-2400	DOS	250	8	DV	Y	3	O	I	O	Y	$799	$129
Z/Max XChange	Z/Max Computer Solutions, Inc	315-635-1882	315-635-1908	-	UNIX	Unlim	-	OS	Y	N	I	N	N	Y	?	$695

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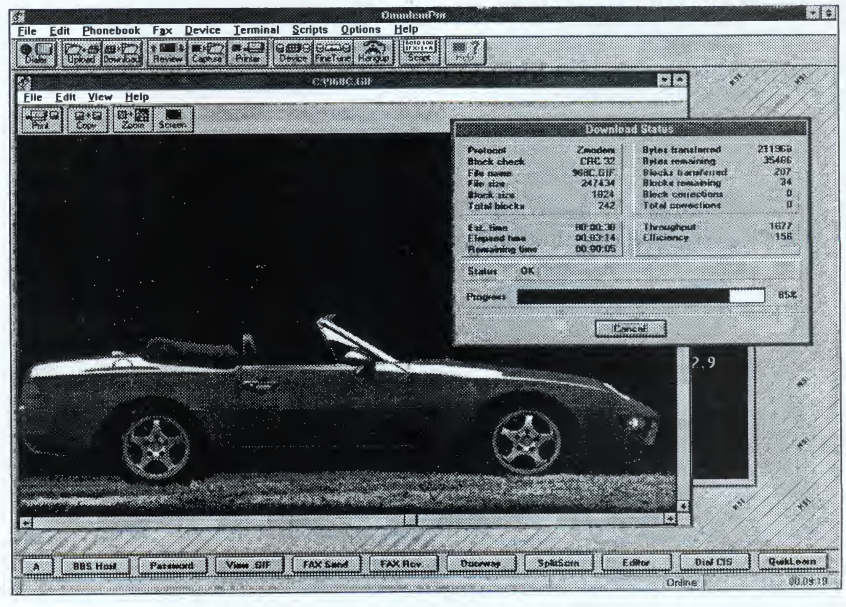

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THE KNOWLEDGE NETWORK

by Bill Gram-Reefer

Henry Ford once said: "Coming together is a beginning. Keeping together is progress. Working together is success." Following this credo, **Pacific Bell's Knowledge Network Gateway** (KNG), formed in the Fall of 1992 in partnership with the California State University System's (CSU) CSUnet, was designed for improving education in California by linking together the state's educational system via telecommunications. KNG is fueled by a broad vision to bring the public telecommunications network to schools and libraries for voice, data, and video communication supporting California's stated goals of fostering education and lifelong learning for all of its citizens.

Using CSU's connections which allow schools access to the Internet and the KNG services, the KNG is intended for use by students and educators both at school and at home, providing computer systems, training, data organization, information sources and collaborative work space for the K-12 education system. Schools connected to the Internet use client applications to access services provided by the KNG. KNG services include the full suite of Internet applications (Gopher, WAIS, Telnet, ftp, USENET, etc.). Full access to the Internet is provided through a structured interface designed to compliment a wide spectrum of grades and curricula.

In addition to the information available on the Internet, KNG also contracts with private sector Information providers for enhanced information services. Curriculum and lesson plans are provided. The development of information-service based curricular extensions is an integral part of the process. The emphasis of the project is on stimulating the use of the information spaces to expand and extend the educational possibilities in the schools.

KNG uses public domain software packages and a design based on lowest common denominator systems to make the service affordable for the K-12 community. In effect, KNG functions as a travel bureau and direction finding interface between the classroom and the world wide Internet. Through the process of identifying, cataloging, and categorizing Internet information sources, KNG enables students, teachers and administrators to gain access to the information they require in a way that harmonizes with the existing classroom/school practices and methods. Because of its inherent extensibility and underlying client/server model, the KNG not only brings Internet information into the classroom, but allows schools, classes, and students to become Internet information providers as well, which allows the program to operate in a more cost-efffective manner.

Teachers are trained at the school site on how to use the system, as well as how to integrate online resources into their lesson plans. Schools access the system via computers on a LAN, connected to the network with a high-speed data link enabling multiple-user activity. Content, while currently Internet-based, will incorporate custom programming to serve the broader educational curriculum, as well as eventually include multimedia and broadband capabilities. Benefits enjoyed by current test sites include the ability to locate up-to-date information otherwise not available, the ability to work in collaborative fashion with peers in other remote sites, and the opportunity for students to learn a new technology that they will need for their future higher education and careers.

Schools typically provide their own funding from parents and grants. KNG provides some mini-grants and stipends to encourage the development of curriculum that support uses of the Internet and collaborative education. For instance, according to Pacific Bell's Paula S. Reinman, one set of schools in San Jose has submitted a CalREN application to participate in KNG.

Some early KNG projects involved linking high schools in Tehachapi and Bakersfield using two-way, full-motion interactive video over the telephone lines; similar distance-learning programs are being implemented at CSU Dominguez Hills and a number of schools in Compton. A "wiring of the schools" project is taking place at Bowling Green Elementary in Sacramento where all of the classrooms will be wired for telecommunications, while Internet projects in cooperation with participating colleges are taking place in Davis, Sacramento, San Francisco, and Union City using ADN circuitry. Off-shoots of the program include KNG-sponsored curriculum guides, supercomputer training at Lawrence Livermore Labs, and the development of a surplus computer donation program aimed at helping some of the state's K-12 classrooms have the resources they need to participate and take advantage of the program.

By the Fall of 1993, 6 school sites were actively participating in KNG, including: Brea Olinda High (Brea), California Academy of Math and Science (Carson), Kennedy Jr. High (Cupertino), Los Angeles Harbor College (Wilmington), Mariposa Elementary (Citrus Heights), and Overfelt High (San Jose). Fifteen additional sites were planned to come online early in 1994. Even with this growth, the KNG is still in test mode and expects to expand the program greatly come this Fall.

Are programs like KNG just part of the natural integration of technological development or do they pro-actively serve more urgent, broad-reaching needs of the public? According to David J. Morgan, director of network design for the (former) San Marcos Telephone company in his testimony before the Communications Subcommittee for Commerce, Science, and Transportation of the U.S. Senate on July 22, 1992, "In fact, only one percent of California's classrooms are wired for telephone service today (July 1992). And if the ratio of students to computers of apx. 20 to 1 were not bad enough in itself, it is made worse by the fact that most of these (computers) stand alone with no networking telecommunication

links. Experiments have shown that students given PCs with modems to take home use the equipment for school work at an average of 1 to 1 and 1/2 hrs. per day; an impressive result *given* that currently, 59% of 13-year-olds and 62% of 17-year-olds do less than one hr. of homework."

More importantly, Morgan stressed that, "Because the underlying premise of the old model educational institutions runs counter to the needs of the Information Age students, we believe that the U.S. cannot achieve its national educational goals by simply extending the school year or by creating new tests of achievement. We believe that the meaning of education needs to be redefined in terms that are consistent with the post-industrial age.

"We believe that the economic viability of the U.S. and standard of living of its citizens is dependent on the availability of a well-educated work force. The quality of education necessary to produce such a work force is dependent upon developing an information infrastructure; this infrastructure must do for the Information Age what the nation's transportation infrastructure accomplished for the Industrial Age."

You can send inquiries regarding the **Knowledge Network Gateway** to 2600 Camino Ramon, Room 2S302, San Ramon, CA 94583, or via e-mail at **psreinm@pacbell.com** (Internet).

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[Bill Gram-Reefer, based in Concord, CA, is president of **WORLDVIEW**, specializing in connectivity and communications. E-mail Bill at: **wk05156@worldlink.com**]

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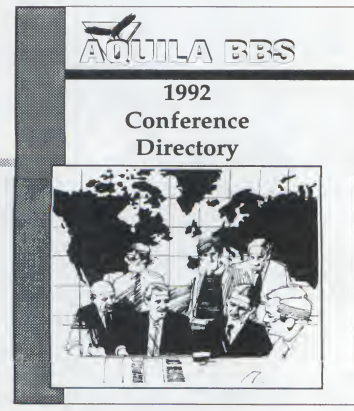

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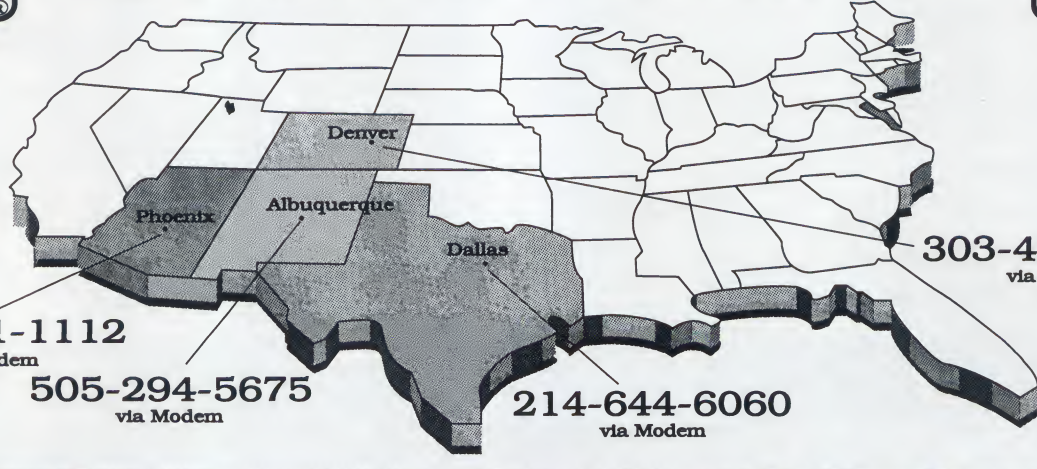

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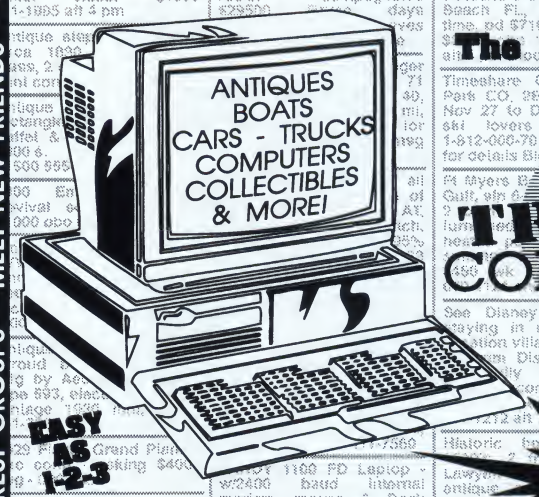

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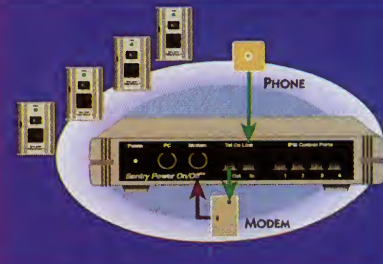

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LEGALLY ONLINE

Brand.Names on the Internet: I Want My MTV.COM!

by Lance Rose

Trademarks are springing up all over the Internet. This magazine's home on the Internet is "boardwatch.com." CompuServe can be found at "compuserve.com", America Online at "aol.com", and BIX, a General Videotext service, can be contacted at bix@genvid.com. These innocuous plain text monikers pale next to the shouting walls of fluorescent "Tide" and "Puppy Chow" boxes that line supermarket aisles across the land. Still, even mild brand name marketing seems to bring forth strong reactions from net denizens. Some see it as a sign the Internet really is about to meet its doom. Let Prodigy have the advertising, just keep our Internet safely tucked in beneath a warm blanket of acceptable use policies and their restrictions against commercial use. Others deride the very notion that Internet addresses can function as trademarks. They prefer to see such things as part of an underlying system of street signs and markers that help net explorers find their way from place to place.

Why all the concern and denial? Can Internet addresses really act as legally enforceable trademarks, and if so, does it terribly betray the virtual community to use them that way? One question might be whether commercial use of addresses and domain names could exhaust the supply of available names on the Internet (an address would be "elrose@path.net"; the domain name associated with that address is "path.net"). A recent article in Dr. Dobbs Journal does discuss the name shortage in the Internet address space. Apparently, there are only about 4 billion name possibilities on the Internet as it is configured today. We could use them all up immediately if everyone on the planet suddenly applied for an Internet name. Short of that, we should be in good supply of available names for a long time into the future, or at least until the address space is increased.

Another, more serious objection is that Internet addresses and domain names are purely technical terms for use in computer networking, not commercial brand names. This argument has some basis in trademark law. In one famous case, chip maker Intel sued to enforce trademark rights in the "X86" names ("286", "386", and "486") Intel gave to successive generations of its cpu chips. The court ruled against Intel by holding that each X86 name referred to a type of computer chip and not its maker, thus making the X86 designations fully available to Intel's competitors to describe their own cpu chips. Intel got smarter the next time it brought out a chip in the X86 series by foregoing the name "586" and naming it "Pentium" instead, which has little chance of being mistaken for a chip type designation.

All Internet addresses share a feature similar to Intel's X86 naming convention. The rightmost term in every address and domain name ends in a conventional top level domain name, such as the domain names mentioned at the top of this column which all end in "com". These terms are assigned and maintained by a central authority on the Internet called the NIC (which stands for the Defense Data Network, Network Information Center at SRI International), and have Internet-specific meanings. For example, the "com" suffix refers to an Internet domain maintained by or as a commercial enterprise, "net" refers to a networking organization, "gov" means it's a government-controlled domain, and "edu" means educational institution. In a parallel, somewhat alternative scheme other countries require two letter top level specifications, such as "us" and "uk", as the top-level domain name indicating the country where the organization maintaining the domain is located. Lists of these top level domain names are scattered across the Internet and the many books on its use. No one can own these terms, since they are common addressing conventions which must remain available for everyone's use.

To the left of the top level domain names are one or more local subdomain names, listed hierarchically and separated by dots — and suddenly the naming conventions that apply to the top level disappear! Internet sites can choose any sudomain names they want, though second-level subdomain names (the one immediately to the left of the top-level domain name) must be unique and approved by the NIC. An organization can choose any subdomain name that suits its whim, but in practice they typically use the same names they use outside the Internet, or as close as they can get. For example, when NYC-based system Echo found "echo.com" was already taken by someone else, it took the name "echonyc.com." Several subdomains can be tacked on the left of the top level name, down to specific host computers and domains within those computers, which can result in lengthy names like "evil.filthy.capitalist.business.com." Each subdomain and host name can be chosen arbitrarily, and again they often reflect the names used by the same organizations outside the Internet. Finally, the terms to the left of the @ sign in an Internet address can also be chosen at will, and usually also indicate the person or organization at that address, as in the "bix@genvid.com address mentioned above.

The ability of Internet addresses and domain names to indicate specific organizations makes them perfect for use as trademarks. Internet sites that provide services to the public or paying customers (even standard staples like ftp-accessible file storage, gopher facilities and Usenet newsgroups) can choose names that indicate not only the name of the organization, but also any other brand name under which they provide the services in question. A single Internet site can deploy several different brand names for different services they offer, simply through differentiation of domain

names and addresses. If a company named Acme wants to provide Internet-based home delivery services related to pizza under the name "Pete's Pies" and hero sandwiches under the name "Sid's Subs" in two different Internet areas within the same second level domain controlled by Acme, it can use the domain names petespies.acme.com and sidsubs.acme.com. Internet users will recognize these as distinctive names chosen for some purpose by the domain owner, and Acme's customers will instantly recognize these names as indicating the Internet component of Acme's food delivery business.

This use of domain names should also be fully protectable under the law, though we have not yet seen any reported court cases based on Internet trademark infringement. Trademark law recognizes the right of every producer to use distinctive brand names showing where their products come from, and prevents others from confusing the public about which product source is indicated by those brand names. There is no Internet exception. Internet sites provide a wide variety of products and services under source-indicating names as described above, and have the right to prevent others on the Internet from diverting their customers through use of deceptively similar names — a practice called "free riding" or "palming off" in trademark lingo. Trademarks may have evolved a bit since they took the form of a few scratches on pottery or a hot branding iron on a cow's hide, but they still function the same way, on the Internet and elsewhere, as an indicator of the source of goods and services.

With all that, objections remain to the use of addresses and domain names as trademarks. Some net users point out you can't have a free hand in choosing your complete domain name. The higher level names must be accepted or assigned by the NIC, just like phone numbers have to be accepted or assigned by the local telephone company. Such preemptive intervention by an overriding authority would seem to contradict a trademark owner's assertion of total control over use of the brand name. This would be an interesting problem to ponder, except for one thing: the courts have already held that telephone numbers can be owned as trademarks. The leading case in this area held that Dial-A- Mattress Franchise Corp. owned trademark rights in the phone number "(local area code)-MATTRESS" in various telephone exchange areas, and that those rights were infringed by another company's use of the telephone number "1-800-MATTRESS" (which obviously confused customers looking for the company that had the word "mattress" as their phone number). Similarly, another court held that a law firm owned trademark rights in the phrase "Dial LAWYERS", and that those rights were infringed by the telephone number "800-LAW-YERS". There is a legitimate argument in progress over whether such broad product-defining names are too generic for protection (owning "mattress" for a telephone number could be like owning the brand name "computer" affixed computers, which is disallowed as too generic), but that's only a question of which phone numbers are protectible as trademarks, not whether they are protectible at all.

For those who persist in denying that domain names can be trademarks due to their technical nature, perhaps analogous to street signs, here's the sad, ultimate truth: the actual technical domain addresses on the Internet are numbers, not words, referred to as IP addresses. Every domain name that is expressed in the alphabetic character strings meaningful to human Internet users has a counterpart expressed strictly in numeric terms (except for the lowest level parts of some domain names that are only pseudo domains set up internally by some Internet service providers to look like Internet sites). This is the addressing system used by Internet computers to route messages under the TCP/IP protocol. To find your own numerical domain name, type the command "host IP-address" at your host site, or the local equivalent. For instance, my address "elrose@path.net" has an IP address of "elrose@192.190.111.22"; my address "elrose@well.sf.ca.us" has the IP address "elrose@198.93.4.10". These addresses can be used interchangeably with the alphabetic ones for sending messages, and they are the real equivalent to street signs on the Internet.

Yet another argument against trademark status for Internet domain names and addresses has been raised: What about the fact that we see many Internet addresses that are very similar? For instance, a survey of Internet sites about a year old reports that the most common host names were found in the following numbers: "venus", 633 times; "cisco", 595 times; "pluto", 590 times; "mars", 562 times; "pc1" 527 times; "zeus" 522 times; and "mac2" 475 times (what arcane connection exists between Roman mythology and the computer business to make names drawn from these two regions the most common for Internet hosts?). This lack of uniqueness certainly affects the abilities of the users of these names to sue each other for trademark infringement, just like the use of "Ray's Pizza" by seemingly half the pizza places in Manhattan keeps them from effectively suing each other for exclusive rights to the name "Ray's", resorting instead to declaring themselves "Famous Ray's", "Original Ray's", "Famous Original Ray's", and other variations. And just like the unfortunate proliferation of "Ray's" for pizza places does not undermine the ability of other businesses to use more distinctive and protectible trademarks, there are plenty of different names available on the Internet that would have stronger trademark rights than "venus" and "pc1". As time goes on, we should expect to see commercial Internet sites with early claims to the use of certain names sweep out other, later users of the same or similar names, to make their own Internet niches more distinctive and recognizable to the public.

While the controversy over domain name trademarks continues, this author is satisfied that a properly chosen name for an Internet-based business or service acts a full-fledged trademark, enforceable by the courts. This far from exhausts the trademark possibilities on the net. Aside from domains, online services can develop trademark rights in the use of their names in log-in screens and within their services; in distinctive graphic logos, sounds and animations presented to users of their systems (think of the animated, musical logos commonly used today in TV shows, films and multimedia software); and in the very near future, in distinctive features of proprietary online graphical environments, just as fast food franchises protect the distinctive looks of their architecture and interior design under trademark laws today.

The symbolic aspect of the trademark controversy is the easiest part to understand. Internet traditionalists are not too thrilled at the hordes of technically deficient new users searching for things to buy and consume. For many of these new arrivals the Internet is just a beta version of interactive TV or a new kind of home shopping network. Merchandising and trademarks are inseparably part of this culture, and the Internet addressing systems, like all other aspects of the Internet, will be pressed to their use. The non-commercial Internet Garden of Eden is swiftly fading from memory to reside, if anywhere, only in forgotten and secluded byways. Meanwhile, those in the mainstream continue lay the foundation for a towering Babel of Internet trademarks.

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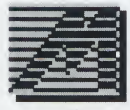

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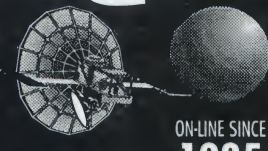

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ULTIMATE COMPUTERS BBS

by Brian Gallagher

"I have to stay at home all day with five kids, I need to talk to adults - buy me a computer, I'll work out of the house," She said. "Yeah, you and about 3 million others would like to work from home," he said, "but it's just not going to happen - who'll hire you?" "Then I won't work for anybody else," she said, "I'll work for myself." "You need a business," he said. "I'll start my own," she said.

And the conversation goes on and on. "You don't need anything more than a 286 for home use," he said. "I need a 486 - nothing less," she says. Just before Christmas of 1992 he gives in and buys her the computer "Basically just to get her out of my hair," he said, and things have never been the same for this Michigan couple since.

After a scant six months The Ultimate BBS, (313)538-9821, has paid for itself and gone through a rather phenomenal growth spurt from 2 to 4 straight to 20 lines. Today, with over 1,000 calls per day, the 20 lines are hitting their limits and it looks as if they may be expanding even further in the near future. The mastermind behind this entrepreneurial effort is Julie Johnson, sysop and mom.

With five children, Anastasia, 15; Richard, 12; Angela, 8; Jennifer, 4; and Kiefer, 1; some would think that she had her hands quite full, but noooooo... "I need an outlet," Julie said, "When I'm home alone with five kids, I need to talk to adults once in a while."

In a gentle, patient voice, Julie describes herself as a machine person. "I've always worked well with machines and people," she said, "but my love for machines was always much greater. I found I could scan a manual and then sit down and start doing it." She first realized this unique and valuable skill when she was in the Army from 1976 through 1978, and has been applying it to the rest of her life ever since.

Her affair with the world of bulletin boards began in 1979, when she ran a one line board through 1985. After a seven year hiatus from BBSs, she convinced husband, Brian, to buy her another machine and software package. When he showed up with the machine she asked for, and Galacticomm's Major BBS software package - she was elated and back in the cyber world once again.

Today she runs much of the board from her house while taking care of the children. The only times, the children interfere with her BBS work, is when she is typing, (which is most of the time). It seems that she is usually holding Kiefer, (the one-year- old), and he likes to push the keys from time to time. While this added input tends to slow things down once in a while, she doesn't mind and the users are "pretty understanding" if it takes her a while to reply.

Brian has also learned to be understanding, especially since he was more than a little skeptical in the beginning, something for which he now feels a little guilty and maybe even foolish. "She always backed me in everything," he said, "I discouraged her from doing this - 'It's not going to work,' I said, 'It won't make money.' The next thing I knew she was making more money than I was."

As the executive producer of an afternoon news show for a local talk-radio station, Brian was making good money and was comfortable in his role as bread winner. All good things come to an end, however. On May 28th the entire news department of the radio station he worked for, then WOWF, was called into the main office at precisely 2:30 p.m. The executive in charge told the employees to prepare for the worst.

That day the radio station was changing its format from news to country. At precisely 3:00 p.m., a scant half hour later, the station opened up with the Hank Williams Jr. song "Young Country," and adopted that title as the new name for their station: now 99.5 WYCD - Young Country. When that song hit the air waves, Brian said, all but one or two of the 12 to 15 member news' crew was sent packing simultaneously, with their severance pay and that half hour notice.

Finding himself unexpectedly unemployed Brian began looking for work. And he found work. He found it in Florida, in Ohio, and two places elsewhere in Michigan. But he couldn't find any better offers than the one his wife gave him - working for her at Ultimate Computers.

While working as a husband and wife team has its ups and downs, a certain degree of harmony is also necessary to be effective, and this couple has definitely achieved that. "He's a hardware person, I'm a software person," she said, "I think that's why we mesh so well together." Things weren't always such a symphony, it took a while to get used to the new hierarchy in their lives, particularly for Brian. "I think the hardest thing for me to do is letting her run things," he said laughing, "It's a male ego thing. We get into fights sometimes, but she wins - it's her business." One of the major reasons that Julie gets to make many of the decisions at Ultimate Computers is that initially Brian made some command decisions and they didn't turn out so well.

The "command decisions" that Brian has made typically involved purchasing modules from third party software developers who, once they built a product and sold it, failed to support it in the future - creating a total loss for the company. There are many reasons this happens, including: a company going bankrupt, a company being bought out and a particular product not being purchased in the buy out. Other times modules are not upgraded to work with upgrades of the software they are produced for, and still other times technical support is simply lacking. After a few run-ins like this, Brian and Julie decided it was best if she took care of the business details because, he said, "she has a knack for this sort of thing."

Julie's answer to the module problem is to sub-contract approximately 12 programmers to write modules for her board and The Major BBS. She has vowed to support the modules, games to start with, through Ultimate Computers, so that anyone needing tech-support will have it. Speaking of support, Julie has plans to set aside one day a month for users, both old and new, to come down to one of their two office suites and have a personal one on one "walk through" of their board, its software, and BBSing.

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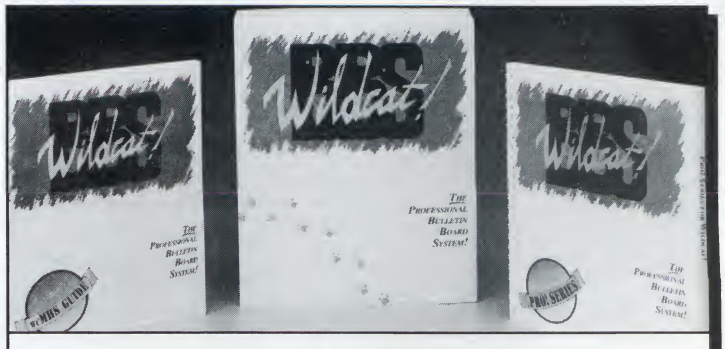

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The way he sees it, so long as she lets him out on their boat in the summer, she can do whatever she likes. Letting her have her way seems to be working well for the two of them. "I think any smart man lets his wife handle the finances," he said, "As long as she handles the money, I know the bills will get paid; I'll have a roof over my head, and I'll still be driving my car. She has the business sense, I have the common sense." Brian says that she hands him a list of things to do in the morning and that he proceeds to take care of it, adding that he doesn't mind "being an office boy."

Their office currently consists of two suites that is likely to expand to four in the near future to accommodate the module end of their business. Although Julie assures that the programmers may work out of their homes if they'd like to. It works for her, she explains, and she likes the idea of passing that freedom and luxury onto others - it's a bonus of the information age.

Besides the coming programmers, there are two other volunteers who help with the board, easing the workload for this full time couple. The company itself is doing quite well earning approximately $3,000 per month after paying for the office suites, advertising and phone lines. With over $30,000 invested in hardware and software so far, the couple is looking at putting in still more lines and more hardware to offer even more to their subscribers in the near future.

Part of what makes the board profitable is the planning that went into putting it together. Before Julie set up The Ultimate BBS she did a lot of looking around to see what was out there and what she would like to incorporate into her own. This research concluded, Julie found chat to be the most active area on many boards, and hence made sure that she could offer first rate areas just for this. There are four or five different ways for people to Chat on The Ultimate BBS including: the main teleconference, private teleconferences and any of a number of set channels users can choose from. People can even chat while playing different games.

Persons who can't chat on the board however, are those under 18, simply because The Ultimate BBS is an all adult board. The all adult status did not come about because of excessive pornography online, although they do carry adult files; it occurred because many of the users requested an all adult board so that they could have adult conversations with other adults. Besides that, Julie explained, they have get togethers once in a while, and they are usually in bars where kids can't get in anyway.

Julie Johnson - Sysop Ultimate BBS

Membership to the BBS is $10 a month for full access. This fee also includes a separate voicemail system as an extra service to users - just to make their board more attractive than a competitors. Internet access will also be in effect as of early February as soon as a new module is completed. Other features include 6 CD-roms with 3.5 gig of files, various games, RIP graphics and of course - chat. Another bonus to entice users to her board is a special offer to women BBSers, the first month is FREE! Yes FREE! and only to women.

She feels that women need to be getting more into the cyber realm and this is her way of promoting that. "Women are really getting into the field," she said, "I'm glad." Like many sysops, Julie would like to see BBSs grow explosively and she is willing to do most anything to promote that end. "It's so easy to use a computer if you just get the right person to help you," she said. This bit of philosophy is what prompted her to start Ultimate Computers in the first place. Running a for profit BBS wasn't her original intention at all, running an educational board was.

The problem with running an educational board is kids don't have any money. And, she adds, governments don't have any money to pay teachers - let alone extra cash to throw around on a new teaching technology that might work. Which brings us to her master plan: "Do the entertainment (BBS) to get the money to do the educational (BBS)." When she initially looked at setting up a BBS, her full intention was to do an educational board, only when she checked around, she said, "People just laughed at me - nobody would donate." At present, however, it looks very doubtful if there is anything that can stop her from seeing her vision through.

With the success she has so far achieved with Ultimate Computers, Julie is tentatively looking forward to having an educational BBS up and running by January 1995. But first she'd

Brian Johnson - Office Boy - Ultimate BBS

like to get Ultimate Computers to 100 lines or more to be sure she can offer and support a free educational board. Julie not only thinks that computers are a great and as yet virtually untapped well for educating our children, she thinks that an educational board may also help in keeping kids off of the streets - possibly turning their lives in a new direction.

If you would like more information about Ultimate Computers or The Ultimate BBS, their voice number is (313)538-7122, or they can be reached via snail mail at: Ultimate Computers, 24755 5 Mile Road, Suites 11 and 12, Redford, MI 48239. They are also waiting on the installation of an 800 number, (which should be in operation by the time this goes to print), 1-(800)-SYSOP-CH(AT), for tech support on their coming game modules. And no, the "AT" on the phone number won't affect the call.

BEYOND THE REALM BBS

by Brian Gallagher

Tucked away on a lonely winding mountain road in Tarzana, California, a full hour and a half from school, a 12-year-old Lee Ladisky found himself wanting for friends and companionship. The son of an engineer, Ladisky's best friend was a guitar that his father brought him for his fifth birthday. When he was 12, his father showed up with a new friend - a Commodore 64 computer with a 300 baud modem.

It didn't take long for the young Ladisky to learn the ropes of programming and to explore the then limited horizons of online communications. His online travels led him to Tom Tcimpidis' Mog- UR's EMS bulletin board, (818)366-1238, where besides a huge file base in which to play, he found sysop Tcimpidis to be friend, teacher and mentor all rolled into one. Under Tcimpidis' instruction Ladisky was soon programming on his own and developed a BBS program for his Commodore which he says is still floating around as shareware under a name that he long ago lost track of.

The Commodore, having a characteristic and reputation of being a musical machine, also enhanced Ladisky's love for computers as music was his first true passion. Indeed, his neighbors during his childhood were Neil Giraldo and wife Pat Benatar, the popular rock singer during the 1980s. Giraldo, who plays lead guitar for the band and writes many of the musical compositions and lyrics for the group, took Ladisky under his wing and showed him guitar riffs and licks akin to programming in assembly with your eyes closed. Giraldo also took the youngster to the band's practices and even accompanied him when he bought his first electric guitar.

Today, Ladisky's time is spent between working full time as the sales manager for a Novell Platinum dealer, going to school full time for a degree in computer science, singing and playing guitar in local coffee houses, and being sysop for the Beyond the Realm BBS, (805)987-5506. Given this over-stuffed schedule, it would seem that Ladisky has little room in his life for anything except work, work and sysoping. This is not however the case. There is a significant other in his life by the name of Kim Cartwright, (all Big Valley jokes aside), who Ladisky is teaching bulletin boards to increase her computer literacy and prevent her from becoming the proverbial computer widow as they are planning to marry in the near future.

While he had been a sysop before, the Beyond the Realm was a project that grew from two main variables. One, he just happened to have a brand new computer system on hand; two, he was having surgery and would be laid up for six weeks.

Given these circumstances, and adding that one can rent movies for only so long before getting brain rot, Ladisky opted to sysop again using VBBS OS/2 6.12, software he thinks is "really slick," largely because of the accessories such as: drop in language modules, support for unlimited conferences, CD Rom support, and the V.live module which allows VBBS users to have live games, chat and user meets between other boards. He also likes to boast that it is a very fast system (for being written in basic), and that it is easy to modify menus and prompts throughout the system.

His board currently consists of three nodes, and like most sysops, he would love to add more. The Beyond the Realm is ASP approved, and has six CD Roms with over 5 gigabytes of files. Ladisky views his board as a perpetual hobby, and at this time can't foresee it ever making him any money, he is just happy when it pays for itself. He also happens to be a real user's

Kim Cartwright and Lee Ladisky

sysop. He and co-sysop Kym Taborn, welcome suggestions from users on ways to improve the board, and they actually implement many of the suggestions they receive.

A self described "file horde," Ladisky offers to find any file for any user who logs onto his board. If, for instance, a single user cannot find a particular file in the file base of his BBS, all the individual need do is to leave a message to Ladisky with their name, the file's name, the file's location on the Internet (if they have it - if not he will Archie to find it) and he promises to get that file to the person within three days. No matter what, he said, "I'll find it."

"I want to be complete as possible," Ladisky said, "I want them (users) to know that they have a sysop who is active." He says he also has a policy of replying to all e-mail messages within 24 hours to perpetuate that active status. His exemplary online manners are summed up and reflected when he describes his favorite board - Tcimpidis' Mog-UR's, "That board reflects the sysop's love for the board, it gives me the same feeling I have when I'm on my board."

Like many BBSers Ladisky sees the Internet playing a larger role in the future of BBSs, saying that one day commercial BBSs will engulf the smaller 1 and 2 line BBSs into their arena, and the whole mess will be "one big huge node off of the Internet." While the possibilities of the future interest him, the here and now realities of the power of BBS communications strike him as invaluable. Networking, he

Lee Ladisky and his Band

said, is his favorite part of any BBS. Getting feedback on an idea within hours through the board is one way BBSs are changing the way the world does business. The problem solving potential he finds astounding. "If there is a problem that that kind of networking can't solve," he said, "I'd like to know what it is."

Not surprisingly the Beyond the Realm BBS carries a good deal of guitar and classical music stuff as well as a tome of Star Trek information, (co-sysop Taborn is a self-described "Star Trek fan from hell"), for all the Trekies in the Federation. He also carries over 100 USENET conferences, and has Internet access, with e-mail and indirect FTP. He enjoys programming modules to customize the system, and says his reward in BBSing and sysoping is helping out the users.

The system itself is the product of a careful caring hand, filled with color and personality, reading "Slam a Return" after every screen. Ladisky, who is known to his users by his handle "Musical," ads that, "Yes, I have long hair," and that he really likes helping people out with whatever their difficulties are in dealing with the silicon world. On the world of "Beyond the Realm," a 60s trend seemed evident in the most frequent file hound handles, with names like: Mo jo IV, Substance Rush, Cannibis and Weed to list a few. Woodstock Lives Online!

One of the few problems that Ladisky has within the industry is that of piracy, a personal and constant pet peeve of his. As a musician it bugs him if somebody would steal a song - it's their bread and butter, he says, and he sees software in much the same light. After all, a musician writes a song from their own imagination and experience, much the same as a programmer writes software. He feels boards that specialize in piracy are malicious in nature and not only does he avoid them, but he encourages others to do the same.

While the Beyond the Realm BBS is just over a year old, it has already attracted some 580 callers per month, and grows about 80 new members every month. Users range from 11-year-olds to 70-year- olds, bridging generation gaps and covering the full gambit of online personalities and view points. Like many boards not business oriented, his peak calling hours are from 3:00 pm to 9:00 pm averaging from 30 to 50 callers per day.

One of Ladisky's favorite ways to spend time on his board is walking a new user through all the goodies he has in store for them and introducing them to the world of BBSs. For this task he has more than patience, he has quiet enthusiasm. Membership is $10/year for full "everything" access, including the services of this ever helpful and attentive sysop. Ladisky can be reached at (805)987- 5095, voice phone, or via snail by writing to: Beyond the Realm BBS, 2263 Camilar, Camarillo, CA 93010.

QUAKE '94

After the Shock

by Brian Gallagher

And the walls came a' tumblin' down...and bits and pieces of them landed on everything, including BBSs located near or at the epicenter of the now infamous January 1994 California quake. With billions of dollars of structural damage to buildings and highways, the small but growing world of BBSs suffered its damages too, but overall seemed to fare better than much of the rest of the city - and played a large part in the healing process associated with this catastrophe as well.

Don Adler using his Chatter Box BBS, (818)995-6959, running Major BBS software, did, and is still doing, his share in putting this city back together. Like many sysops, he put up an emergency forum on his board titled "Go Quake," which included information from the Red Cross and FEMA, containing helpful reminders to turn off your gas, how to do it, and where to get necessities such as water and food.

Besides this assistance, every board that was still in one piece was inundated with e-mail asking sysops to check on friends family and relatives - as BBSs were one of the few ways people could get word in and out of the quake zone directly after it happened.

Adler, with the help of his users, quickly organized a relief effort through his board, collecting clothing, cookware, bedding and furniture - storing it in his garage and distributing it to those in need. He also received communiques from accountants and lawyers who volunteered pro-bono work for quake victims needing to get their affairs in order after the disaster.

The Chatter Box BBS was fortunate enough to be back up and running a scant five and a half hours after the quake hit, albeit not at full power. One monitor was listed as a casualty as it was found under a book shelf 12 feet from its perch. And 12 14.4kbps modems went to that big silicon graveyard in the sky when they were

crushed by a wayward refrigerator. Compared to the rest of his house however, Adler said the BBS fared well.

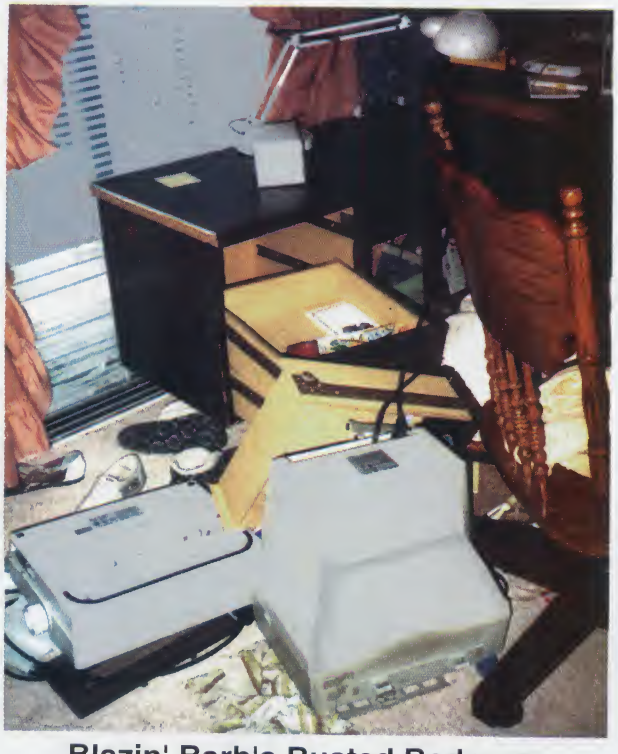
Bill Martin, sysop of The Prime Time BBS, (818)982-7271, running Major BBS software, did much better than most, even though his computer was buried behind a pile of rubble for a week. Fortunately the machine rebooted itself when power was restored, leaving Martin able to work on it from a remote computer until a pathway could be cleared. Amazingly enough, the hardware sustained no damage in the rumble.

Another sysop counting her blessings is Barbara Mallut of the Blazin' Bytes BBS, (818)776-2777, running TBBS software. When the quake hit she lost two computers that she had upstairs in her home/office, but the downstairs computers that were running her BBS remained intact. When she first saw that her BBS survived she said, "Oh God...it's still alive!" She added, "at that moment it was the only normal thing in my life."

The attachment people feel for their BBSs is never so evident as in times of crisis - "I cried when I saw that (the BBS) was still running. I've never loved anything so much, except maybe my kids," she said. Like many others, she assisted quake victims through her board, and has found that quake victims are assisting each other using the chat area.

Massive Damage at the Annex

Every morning since the quake a flurry of phone calls rumbles through her board around 4:00am or 4:15am. It is people who can't sleep and are waiting around on frazzled nerves, waiting for yet another after shock, waiting for the "big one," relaying their fears and frustrations and consoling one another over a keyboard and monitor.



Blazin' Barb's Busted Bedroom

Barely one mile from the quake's epicenter, Greg Gooden's The Annex! BBS, (818)786-5600, running the Major BBS software, was one of the hardest hit. His 42 line board suffered the loss of three monitors, eight external modems, a 700 MB hard drive and a 486 computer - the last two of which collided effectively destroying both.

Gooden was emotional at the prospect of losing his board. "The fear that I'd lost it (the Annex) was like losing a child," he said. His priorities when the quake hit were: 1)Personal Safety, 2)Roomate's Safety, 3)Pet's Safety, 4)BBS - adding that his entire social life is centered around his board.

The Annex is also experiencing a flood of late night/early morning calls from people getting their dose of online quake therapy. Besides these calls, he also received calls from users and others asking him to check up on family and friends, offers from other sysops offering to lend him hardware to get back on track. "I found out I had friends out there I didn't know about."

Ira Goldstein, sysop of The Hard Drive Cafe BBS, (818)993- 5516, running Major BBS software with 8 lines, found a new type of "net" to help his BBS when the walls started shaking. The net that saved his BBS from becoming a mish-mash of parts strewn across the floor along with most of his other belongings, was the net of wires and connecting cables that literally held the hardware, monitors and all, suspended in mid air - although he was still left with "a mess you can't comprehend."

While Californians are rebuilding, rewiring, and reminiscing, the heart beat and pulse of its BBS users pumps on, delivering kind words, good deeds and donations to all in need - proving themselves as a new and vital resource to disaster areas.

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MARCH LIST

Swiss List

by Brian Gallagher

It's a good place to go for chocolate; it's a good place to go for fine timepieces; it's a good place to go for banks, and it's a great place to go for BBSs. Dotted throughout this mountainous country, 552 bulletin boards are bringing those on Switzerland's highest peaks a little closer to those in the deepest valleys. Keeping track of this online populous is Cesar Keller, 22, student, list keeper and sysop of the **Warehouse BBS, 011- 41- 1- 492-5157**.

Four years ago when he first started keeping the list, (because nobody else was keeping one that he knew of), Keller said there were only two pages of bulletin boards. Today there are over 20 pages of bulletin board listings to keep track of. "It goes up exponentially," he said. Fortunately for Keller, a plethora of users help him in patrolling the ranks of his list, keeping the boards in line, and online.

Keller's online experience began when he was 12- years- old when a video game caught his eye. The first thing he wanted to do was to write his own game programs, so he got a small computer and started programming simple games using basic. He soon discovered that no matter what he did he couldn't match the speed or graphics of the arcade games and he began to lose interest.

Cesar Keller

In 1986 Keller was living with his parents in Phoenix, AZ, and this is when he got his first 300 baud modem. It didn't take long for him to become infatuated with the cyber world again and today there isn't any particular reason he can give you why he likes BBSing. "I like all of it," he said, "I'm hooked, I don't even know why anymore."

BBSing in Switzerland is a lot like BBSing in the States, only there is one notable difference. ISDN has taken root and is rapidly expanding in this European country, much more so than it has for states on the other side of the Atlantic ocean. Currently almost 20 percent of the boards on Keller's list are ISDN connected, and he said, there are about five boards adding it to their systems each month. Keller's own Warehouse BBS has two ISDN lines one of which is: **011- 41- 1- 400- 1498**.

It is an interesting thing about ISDN and Europe, according to Keller, the future of BBSing for much of Europe will soon be ISDN, making modems and phone lines a thing of the past. He added that in Switzerland the standard telephone lines have no options such as caller ID and call waiting, ISDN, however, offers these features and more at exactly the same cost. While americans are clamoring to get ISDN connections to little or no avail, (exorbitant costs being a prohibitive factor), there is something that Keller would love to have and doesn't for the same reason...a direct connection to the Internet.

He finds the Internet to be one of the best inventions since the remote control. "I think it's fantastic," he said, "It's the future, it's so cheap and everyone can use it." His favorite part about the Internet are **USENET** groups, where he enjoys speaking to people from all over the world in what he calls an "interactive newspaper."

Keller is a freshman in college majoring in computer science. He has been running his board, the Warehouse, for the past four years and has every intention of keeping it and the list updated. His board has 2 gigabytes of files and three standard lines, in addition to the two ISDN lines. He and girlfriend of six months, Brigit Soom, have left the BBS out of their relationship thus far, but you never can tell - especially when it comes to byteheads.

For anyone wanting a current version of Keller's list they can download it from his board at the numbers listed above. The filename is **DREA0394.ZIP**, ("03" is for the month of march, and "94" is for the year), and can be found on the file menu. Or users can obtain a copy by mailing a self addressed stamped envelope to: **Cesar Keller**, Wydlerweg 17, CH- 8047 Zurich, Switzerland. For swiss Boardwatch readers, if you know of a BBS that is not already on his list, Keller would very much appreciate it if you could send him information on the board. His goal is to create a comprehensive BBS list for all of Switzerland.

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SWITZERLAND BBSs

NAME	PHONE	SYSOP
ZURICH-CITY		
Warehouse BBS	41-1-492-5157	Byte Rider
Amiga Microbox	41-1-300-1008	Michel Frei
CAC-Box	41-1-483-0721	Xaver Aerni
Dennis' Box	41-1-401-4046	Dennis Iten
eternity	41-1-422-8622	Olivier Schraner
Eulen BBS	41-1-431-9649	Christoph Lehmann
Felcom BBS	41-1-461-0581	Marcel Fellmann
Gepard's Oracle/2	41-1-363-7037	Alex Wyss
Graceland	41-1-401-2594	Andreas Bundi
Helvetica	41-1-312-1268	Bruno Amsler
HIVNet ZH	41-1-241-1539	Manuel Vincenz
IBM PC-Club Box	41-1-436-7027	Dani Heuberger
LakeField-System	41-1-381-3252	Bruno Crameri
LakeField-System	41-1-381-3253	Erich Crameri
Lehrer-Mailbox	41-1-302-2541	Fuerrer-Infor
/LGX BBS	41-1-272-4549	Fredi Keller
LIFE	41-1-372-0700	Emil Peyer
Mac City Users	41-1-364-3508	Andreas Feuz
Macworld Online	41-1-382-2313	
MTW-Box	41-1-303-0488	
Hubble Zone BBS	41-1-371-8408	Michel Schwab
MPC-Mailing System	41-1-463-4001	Oliver von Bueren
PD-House	41-1-272-0663	Erich Jakob
Programmer's Board	41-1-363-1930	Roger Gottet
Red Light BBS	41-1-431-2732	Bruno Meier
/R/E/M/A/ Net	41-1-271-5737	Reto Mathis
Sexy BBS	41-1-291-5893	Bruno Thoma
Sihl Power BBS	41-1-240-0196	Stefan Guenthner
Space-Box	41-1-483-0722	Xaver Aerni
Swiss OS/2 BBS	41-1-280-3054	Martin Schaefer
SwissRe Gateways	41-1-285-3655	Richard Baetschmann
Taste Of Paradise	41-1-341-1170	Jann Six
The Best BBS!	41-1-291-5606	Rolf Taschler
XF-RAC Box	41-1-482-5586	Xaver Aerni
Zenith DataSystems	41-1-242-1396	Beat Ambord
ZEV Mailbox	41-1-312-2861	Daniel Heuberger
Zuerich Live BBS	41-1-431-2321	Raphael Schmidiger
ZURICH		
ACCU	41-1-885-8015	Urs Utzinger
AmiCall BBS	41-1-980-4297	Christian Ruf
Ami BBS	41-1-781-3814	
AST Online BBS	41-1-761-6885	Patrick Oetiker
Aussie BBS	41-1-781-4223	Oliver Timme
Best Project BBS	41-1-910-9194	Marcus Bosshard
Box4	41-1-776-8001	Andreas Fink
Computer World BBS	41-1-946-0959	Marcel Toeltl
Cosmo Mailbox	41-1-926-1953	Oliver Rehmann
CTS System	41-1-946-0547	Ivo Ruetsche
Cybernet LAN BBS	41-1-834-0143	Daniel Tscharner
Dietiker Box	41-1-742-0236	Andreas Spahn
Dingo BBS	41-1-741-1523	Franco Cattarossi
Dolphins	41-1-845-0935	Hermann Neuhaus
Euro BBS	41-1-734-4889	Peter Baumann
Etzel Box	41-1-786-2044	Olaf Schaerlinger
Fischer Informatik	41-1-803-0396	Peter Fischer
FLEAmarket BBS	41-1-750-6295	Reto Gloor
FreeStone BBS	41-1-865-6863	Matthias Cramer
GEC Alsthom BBS	41-1-724-0006	Juerg Friedli
Gorilla Box	41-1-780-0154	Andrew Despont
Graphics Plus BBS	41-1-701-1522	Roger Mella
GurkBox	41-1-911-0580	T. Gasser
Hades, Elcoma	41-1-730-8280	Cornel Kaufmann
Helvetia SBBS	41-1-840-0456	Peter Lutz
Hobo's Shack	41-1-724-1686	Juerg Friedli
Hubba-buba BBS	41-1-784-2658	Ivan Huber
InformationShuttle	41-1-799-1156	Christian Meuli
Kertamulia Box	41-1-742-0920	Adrian Herzig
Lady Bird BBS	41-1-748-2775	Ernesto Guerber
Lucifer BBS	41-1-867-5033	Anubis
MacBox!	41-1-742-0424	
MacInTouch	41-1-834-1124	
Mailbox Steibrugg	41-1-945-0679	Jack Hanner
Master Line	41-1-740-7103	Claudio Meier
Maxim BBS	41-1-722-2235	Dino Fiori
McMeier & Son BBS	41-1-761-2794	Roland Hausin
Milestone	41-1-865-6178	Aschi
Nevada BBS	41-1-730-2910	Marcel Manz
PD-House Box	41-1-955-0451	Rolf Bieri
PH-Rave BBS	41-1-701-1585	Fineline
ProLine BBS	41-1-840-5372	Gianni Facchinetti
Richterswiler M.S	41-1-785-0144	Rene von Euw
Rowing BBS	41-1-921-1863	IronRower
RTN Europe	41-1-860-7342	Raph. Bretschneider
Sherrif Box	41-1-742-0339	Erol Serifi
Sphinx BBS	41-1-720-5892	Roger Strolz
SwissBase BBS	41-1-945-5077	Hannes Rohner
Turicum	41-1-991-8501	Caspar Schlegel
Unlimited BBS	41-1-817-3127	Daniel Aerni
Vortex BBS	41-1-814-3458	Urs Haller
Zucca BBS	41-1-803-0200	Adriano
Zuerisee Mailbox	41-1-921-1191	Marius Appenzeller
ZyXEL Support BBS	41-1-923-3577	Frank Studerus
LAUSANNE		
Aphrodite BBS	41-21648-0056	Aphrodite
Big-Net	41-21652-3453	
Bimiko BBS	41-21648-2862	Ch. Korber
Black Bird BBS	41-21973-1008	Florian Rod
Black Hole BBS	41-21323-7501	Aurelio Mastropaolo
EduServe	41-21316-3042	Yves Croisier
Gismo BBS	41-21323-9914	Jean-Christ. Heger
Gnothi Seauton BBS	41-21802-3948	Michel Roch
HII BBS	41-21-24-3823	Philippe Huguenin
Hotnight BBS	41-21702-2608	F. Bianchi
Logitech BBS	41-21869-9817	
Mac Univers	41-21-20-8831	
OctoPuce BBS	41-21684-0083	
Pro Online BBS	41-21311-8156	Alessandro Vernet
Relax	41-21648-5071	Christophe Peter
Serveur TelISoft	41-21922-1841	Alain Salanon
SwissLink	41-21923-6225	
The Black Devil	41-21921-3983	Eric Mermod
Trade Wars BBS	41-21701-1667	Sebastien Riccio
Underground BBS	41-21701-2226	
GENEVE		
CCTI Geneve	41-22781-5141	Eric Schefer
C.I.L	41-22797-4461	Patrick Conconi
Cougar BBS	41-22349-9000	Etienne Deschenaux
Cyclone PBS	41-22349-9547	
Elex Net	41-22731-0444	
Espace Info BBS	41-22342-3369	Gerard Saloukvadze
Espace Jeux du GCC	41-22788-3990	Stephane Marquis
EveningLight's BBS	41-22788-4681	Tom Nielsen
ExYugoNet BBS	41-22738-7184	Vincent Lalieu
FedNet BBS	41-22733-2072	Jean-Paul Lucot
Flying BBS	41-22950-0024	Fabien Voland
Geneva MacClub	41-22301-0460	
GoniSoft Comp.Club	41-22757-6573	Patrick Wassmer
Grafix, Vertech SA	41-22364-5343	Peter Werner
LWF Angel heart	41-22791-6465	Stephane Mottier
Mean Machine BBS	41-22700-3080	Yelm & Warlord
Micro-Net Zone 022	41-22344-5132	
Oliver's DiveInn/2	41-22751-2914	Oliver Wagner
PC Stop BBS	41-22777-1270	Serge Sozonoff
Perokstroika	41-22320-1195	
Pro Online BBS	41-22700-3777	Gilles Burnier
Schnopoutsse BBS	41-22771-2054	
StarGate One	41-22364-4808	Thomas Baetschmann
Sun Serveur	41-22347-1100	Olivier Junod
The Cobra Line	41-22341-5476	
The Square	41-22738-9380	Christian Martin
The Strangler BBS	41-22362-8313	
The Support BBS	41-22777-1153	Babtiste Colletti
Transnet-2	41-22733-8050	
YVERDON		
Le Babillard	41-24-35-1953	Christian Pointet
CHABLAIS		
Handy BBS Valais	41-25-72-1058	Jean Perez

SWITZERLAND BBSs

NAME	PHONE	SYSOP
SIERRE/SION		
CyberSpace	41-27-56-3418	
Compunet BBS	41-27-56-5102	Christian Surdez
BRIG		
Ben's Mailbox Brig	41-28-24-2253	Bernhard Willa
RoTTu-Box	41-28-46-6805	Damian Heldner
SkyLine	41-28-67-5179	John Warren
BULLE		
Dark Angel BBS	41-29—4-4610	JeanClaude Schopfer
BERN		
Amiga-HOBBY-Box	41-31921-2215	Peter Glauser
AMiGA TECHNO LiNE	41-31991-5424	Martin Rytz
ASCII-Link-BBS	41-31889-1226	Roger Althaus
BGB (Baerengraben)	41-31932-2575	Peter Witschi
Baerengraben I	41-31932-2891	
Buemplizer Box	41-31992-9233	Fritz Keller
Capital BBS	41-31971-0405	Beat Jau
Comlight AG BBS	41-31889-1271	Martin Ottiger
Cybernetic Clinic	41-31922-1238	Martin Schaerer
FLOATiNG-POiNT BBS	41-31331-6251	Nils Kramer
HewlettPackard BBS	41-31981-2022	
HS-BOX	41-31371-7009	Andi Haehlen
Infos/2 Bern	41-31-26-2336	Martin Stettler
Kevin Gets Bored	41-31765-5661	Rene Maeder
KKB Net	41-31951-5881	
LOG!C Palace	41-31731-1432	Roland Zbinden
Mega Power User	41-31741-4100	
Metropolitan Net	41-31372-4157	Gerard Vuille
Neue Gurten Box	41-31971-2762	Martin Gyger
Omni - BBS	41-31721-6372	Philipp Ruefenacht
Pierce County BBS	41-31701-0055	Pierce
Portner's BBS	41-31741-3845	Daniel Portner
Rebel's Alliance	41-31952-7817	
Technobox	41-31721-7052	Christoph Bruegger
The Chata	41-31921-5303	Remo
Vision BBS	41-31889-0969	Daniel
Wittwer Box	41-31819-6575	Housi
WordPerfect BBS	41-31922-0529	
Yellow Box	41-31338-3344	Peter Balsiger
BIEL		
Amazing BBS	41-32-23-5387	Christoph Dworzak
ISB-EIB BBS	41-32-27-3371	Mirko Buholzer
MultiServer Net	41-32-41-0871	
Redacom AG BBS	41-32-41-3413	
THUN		
Amiga Team 2000	41-33-43-4839	Roschi
Mountains BBS	41-33-45-7075	Rudolf Konrad
Shiwa Mailbox	41-33-54-8888	Peter Gossweiler
FRIBOURG		
Dark Tower BBS	41-34-23-3887	Rash^Partek
Gourmet-CH1	41-34-45-3078	Daenu Stocker
NEUCHATEL		
Satcom	41-38-41-4081	Marc Schaefer
CDS Informatique	41-38-42-2071	Christian
Temptation	41-38-30-3303	
LA-CHAUX-DE-F		
Micro-Net Zone 039	41-39-41-2505	
Sympa BBS	41-39-26-1631	Didier Duvanel

NAME	PHONE	SYSOP
LUZERN		
Berog BBS	41-41-42-1919	Robert Gmeiner
Berog BBS	41-41-41-1941	
CCUW Multimedia	41-41-66-2616	Patrick Reinhart
Cybertech BBS	41-41-58-8667	Alex Marani
Favorite BBS	41-41-48-6301	Rene Baeder
Favorite BBS	41-41-48-6302	
InformaBox	41-41-55-6059	Thomas Ghezzi
Lindenberger BBS	41-41-85-2955	Romano Clerici
LUMA BBS	41-41-42-2151	Bernhard Isenegger
MICS Lucerne	41-41-53-8627	Michael Buenter
MnemoniX SysteM/2	41-41-52-8692	Jan Saner
Nitro BBS	41-41-71-4522	Josko Vinkovic
Oberdorfer Mailbox	41-41-61-5805	Alois Leu
Paradize	41-41-32-9517	Roland Tobler
Panasonic-Mailbox	41-41-57-2258	Pius Gloor
Q/G/B-Box	41-41-34-8422	Urs Rusch
RenderEye BBS	41-41-61-7992	Ursus Krolzig
Sisyphus' Den	41-41-95-3671	Christian Laubscher
Solo BBS	41-41-51-3928	Rene Grom
SpaceLink BBS	41-41-74-2287	Kuno Stoeckli
StarCom Amiga BBS	41-41-43-1201	Daniel Bucher
The Lycaeum	41-41-76-2989	
Waikiki BBS	41-41-37-4714	Daniela Broennimann
OBWALDEN		
CCUW Obwalden	41-41-66-2616	Patrick Reinhart
ZUG		
ARP DATACON	41-42-64-4991	Raphael Amhof
ARP DATACON	41-42-64-5187	Marco Bini
ByteNet	41-42-64-3932	Dani Heinecke
SCA Data Box	41-42-64-3821	Resa Kordi
SO!WIESO	41-42-52-3152	Rohner Consulting
SWW Design Box	41-42-32-1537	Urs Schoen
URI		
Gotthard BBS	41-44—6-4436	Wilhelm Tell
The Primus	41-44—2-7514	Roland Gisler
SURSEE		
Wanger Box	41-45-71-5252	Reto Meyer
WINTERTHUR		
Bunny BBS	41-52232-9442	Daniel Klotz
CCW Mailbox	41-52-41-3500	Michel Rimensberger
Deal It!	41-52203-1034	Alex Huber
EPBBS	41-52242-0253	Eduard Pages
JOJO BBS	41-52-53-2056	Uli Josting
MCC BBS	41-52-46-2644	Max Sonderegger
Pit Stop	41-52222-1948	Pit Biernath
Sky Box	41-52-41-3521	
Squirrel Mailbox	41-52-33-3033	Peter Haessig
Strike Palace	41-52222-1751	Roger Hungerbuehler
Unicorn-Box	41-52-31-4420	Roland Gantenbein
SCHAFFHAUSEN		
PIM-Telemail	41-53-24-5458	Roger
SH-Live SBBS	41-53-25-0332	Michael Dreier
FRAUENFELD		
Jet-Box	41-54-43-1879	Ralf Knoll
MCT-Mailbox	41-54-55-2040	Peter Wehrli
RAPPERSWIL		
Active-Net BBS	41-55-26-1815	Martin Altorfer
Sugus BBS	41-55-42-1800	Michael Helbling

SWITZERLAND BBSs

NAME	PHONE	SYSOP
BADEN		
ACCB Brugg	41-56-41-5578	Reto Thurnherr
Ascom-Box	41-56-26-1969	Marcel Stadtmann
Brother BBS	41-56-83-1283	
CPA BBS	41-56-83-5218	
Datawave BBS	41-56-27-2568	Adrian Knecht
Elba Info System	41-56-27-2683	Christian Schmid
Euro-Soft BBS	41-56-96-4507	Roland Furter
GIBBS Aargau	41-56-27-2368	Heiner Hirzel
Merlin's Last Rest	41-56-41-2461	Renato Torti
Networker BBS	41-56-44-5141	Walter Heid
New Style BBS	41-56-94-9848	Heinz Lehmann
Octopussy	41-56-26-7762	Rene Rueegg
Promigos BBS	41-56-32-2133	H.R. Wenger
Roni's BBS	41-56-96-1472	Markus Rohner
WOHLEN		
City BBS	41-57-24-4394	Romeo Keller
Clipboard BBS	41-57-31-6841	Bono
GCCS Aargau	41-57-44-3472	Patrick Oetiker
PC-Lab BBS	41-57-33-8003	Charles Rosenberger
RAPS OS/2 BBS	41-57-46-3158	Robert Allenspach
SomyBBS	41-57-23-1945	Rene Sommerhalder
The World of...	41-57-31-8915	Bruno Klatzer
NIEDERURNEN		
Userbox Glarnerl	41-58-81-1248	Erwin Metzger
BASEL		
Amiga Magic Box	41-61971-6843	Manfred Seiler
Aviation BBS	41-61931-2405	Hajo Verheyen
BaruSoft-BBS	41-61841-2003	Walter Triebold
Basler Info System	41-61331-2878	Peter Burkhalter
Birs Box Basel	41-61311-0850	Andreas Meyer
Butsch CD-ROM BBS	41-61482-2238	Mike Butsch
Call me !!	41-61-80-4456	Milbe
Caloi-BBS	41-61383-2123	Robert Caloi
Chaos Box	41-61921-0777	
City-Box Basel	41-61692-4251	Boris Gass
ComCon BBS	41-61272-2071	HansWerner Schaller
CommNET BBS Swiss	41-61821-0021	Martin Thommen
CompuTell AG	41-61321-2210	Gioacchino Franzese
Data-Box	41-61711-3446	Andres Walther
DataComm BBS	41-61311-9284	
Data-Networks BBS	41-61322-1654	Patrick Studer
Exitus Mailbox	41-61-35-6620	Hansjoerg Watzl
Fantasy BBS	41-61721-8212	Rol. Eggenschwiler
Fenner Mailbox	41-61-98-5061	H.J. Watzl
Flyconsult+AOPA	41-61481-6273	Rolf Siegrist
Genesis	41-61821-4300	Philipp Ruegg
Go-Soft BBS	41-61301-3326	Roger Schweizer
Hightech BBS Swiss	41-61-61-2904	Andreas Jecklin
ImproWare	41-61901-3321	
Input-Box-2000	41-61-61-9925	Garfield
Ixgate Switzerland	41-61811-5492	
JAK Mailbox	41-61731-3483	Albert Jakubowitsch
JukeBox	41-61693-0061	
Le Box	41-61-67-6408	Peter Meier
LINKSystemLINK-CH1	41-61321-5643	
Mailshop BBS	41-61911-8166	Christ.Schneeberger
Miracle Line [HST]	41-61711-7421	Michel Clement
Moulin Rouge	41-61921-6930	Tatjana
Nice Day BBS	41-61-61-9619	Oliver Jenni
Niels Klim BBS	41-61-67-6208	Juerg Loeffler
Obi's Mail Box	41-61-47-9468	Heinz Oberli
PC-Info	41-61941-2202	Ernesto Hagmann
Radio Amateur BBS	41-61-99-6969	Werner Ludowig
Sky Net	41-61721-6627	Robert Nufer
Sunshine BBS	41-61481-4408	David Hauser
Suter+Suter BBS	41-61275-7310	Felix Ohmberger
The Bunker Box	41-61901-4359	La Mamma Crew
The Life	41-61691-3226	Stefan Kuersteiner
Touchforce BBS	41-61811-1482	
Tritscha BBS	41-61771-0873	Marcel Friedli
Turbo Box	41-61821-6624	Daniel Mangold
YaCaN BBS	41-61302-2828	Tobias Gasser
Zottel Box	41-61811-5014	Ueli Jecklin
OLTEN		
AUGS	41-62-44-3227	Josef Egloff
The Cherry BBS	41-62-61-4870	Christ. Brechbuehl
Crystal BBS	41-62-32-7589	Max Haller
Freeline-Box	41-62-84-1082	Thomas Egger
Power Graphics BBS	41-62-97-4522	Walter Baer
Secret Door BBS	41-62-51-9960	Martin Willisegger
The Baboon BBS	41-62-51-1726	Ruedi Kneubuehler
The Baboon's Kid	41-62-51-3401	
The Miami BBS	41-62-44-4185	Michael Hubacher
Xenon Box	41-62-76-3662	Giuseppe Barbagallo
OBER-AARGAU/B		
LemaS	41-63-66-1463	Beat Bucher
AARAU		
BeTWeeN THe TiMe	41-64-37-0036	
Black Box	41-64-56-3231	Daniel Weber
Black-Hole-BBS	41-64-43-9482	Juerg Schwarz
Freetime BBS	41-64-24-4687	Andre Ryser
Hitline BBS	41-64-56-0200	Marcel Aumer
Irata-Box	41-64-61-4861	
The Emergency Room	41-64-52-0019	Paula Moor
W.I.N.SYS	41-64-61-3245	Hofmann Telecom
Wizard's BBS	41-64-22-4602	Andre Schwaller
.oO WoNdErLaNd Oo	41-64-47-3046	
SOLOTHURN		
Qube BBS	41-65-55-3932	Andreas Cahen
JURA		
Phoebus'BBS	41-66-74-4058	Jean-Pierre Chapuis
Business-Link	41-67-72-1231	Joachim Wiedemann
Weinland BBS	41-67-52-1783	Michael Moeckli
ST.-GALLEN		
Chinchilla Box	41-71-85-2485	Werner Haldner
Colibri BBS	41-71-91-2333	Ruedi Bieg
ComCon Music Box	41-71-25-9061	Martin Rahm
Digit BBS	41-71-72-4421	Thomas
EastBBS	41-71-23-5686	Bruno Scacchi
Frogy-Box	41-71-24-0707	Ralph Kabourek
Inter. Hackerbase	41-71-71-2787	Mike Schibli
Killerwal BBS	41-71-23-4713	Paul Herrmann
M-Way	41-71-44-0308	Ernst Spitzer
Magic-BBS Line 1	41-71-72-8317	Stefan Widrig
Midnight Special	41-71-27-7130	Hansruedi Straub
Orion Mailbox Sys	41-71-72-5188	Urban Oettli
Pegasus	41-71-71-5577	
Roesslibox	41-71-24-2224	Michael Huwiler
Skyline Host BBS	41-71-31-4353	Markus Erlacher
US-Cars	41-71-81-1346	Peter Bersinger
VideoWorld	41-71-85-0612	Cody
White Horse BBS	41-71-71-8392	Ernst Neuhaus
World-BBS	41-71-71-4865	Christian Zellweger
Wyden-BBS	41-71-72-3374	Harry Hoefinger
WEINFELDEN		
Carina BBS	41-72-22-6527	Roland Zeller
Dele-Box	41-72-22-3075	Rene Mueller
GUETTINGEN		
MHS Systems	41-72-65-3421	Matthias Hertzog
WIL		
CBB Mailbox	41-73-51-7840	

SWITZERLAND BBSs

NAME	PHONE	SYSOP
VADUZ/FL		
AUGL Box	41-75233-3801	Sven Sauter
AUGL Box	41-75233-3802	
DataForce	41-75373-6479	Jan Schaedler
Empire BBS	41-75373-5984	Roman Kuser
Kulturdata Mailbox	41-75232-6459	Wolfgang Kaufmann
Maximum Overdrive	41-75373-1513	Marc Liebigt
News-Net	41-75373-6451	Download COCONET
OSIS	41-75373-6680	Gerald Meier
GRAUBUENDEN/C		
Blue Water BBS	41-81947-4232	Thorax
Buema BBS	41-81-27-8044	Marc-Stefan Buehler
Buema BBS	41-81-27-8586	
Epcot Box	41-81723-5305	Peter Pieth
Gizmoz BBS	41-81-22-5512	Stefan Gluekler
Kickstart BBS	41-81783-2077	Peter Moser
New-Line Swiss BBS	41-81302-7200	Roberto Ruga
Planet Quark	41-81-24-6327	Ben Schlup
Planet Quark	41-81-22-9245	

NAME	PHONE	SYSOP
ST.-MORITZ		
Piz-Box-Engadin	41-82—4-5241	Andreas Buri
Powder BBS	41-82—2-1627	John Caprez
LUGANO/CHIASS		
Avalon On Line BBS	41-91-55-2783	Marco Hardmeier
BBS A.T.E.D	41-91-56-3668	Roberto Fisch
Bit Exchange Box	41-91-46-5315	Christian Bianchi
EuroCom	41-91-57-5915	Cleto Pescia
HB9DHG's BBS	41-91-55-2874	Fulvio Galli
Loce BBS	41-91-43-6274	Michele Lucini
Realms of Magic	41-91-46-1378	Mr.Crocodile
The WinCherry BBS	41-91-95-4060	Manfred Murer
Thunder Box	41-91-50-5857	Manuel Wenger
BELLINZONA		
C.M.C-F.E.S	41-92-26-3924	Franco Borsa
Espoclub M.BE	41-92-25-9433	Flavio Esposito

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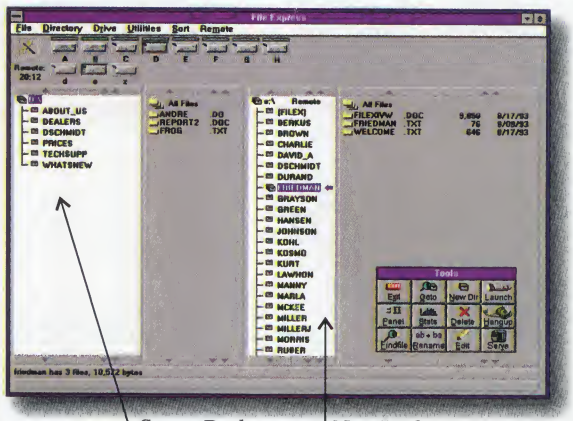

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List of BBS List Keepers

This listing comprises a list of those who compile and maintain lists of bulletin boards, either by topical category, or by some geographic area or definition - often by area code. The primary bulletin board system where the list can be downloaded electronically is also included.

BBSLIST TOPIC	AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
Republic of South Africa	Henk Wolsink	Catalyst BBS	(041)34-1122
Connecticut AC 203	Kevin Brook	Creative Edge BBS	(203)743-4044
BBS With Handicapped Focus	Bill McGarry	Handicap News BBS	(203)926-6168
Seattle AC 206/West Washington	Bob Dinse/Nanook	Eskimo North	(206)367-3837
Tacoma Washington AC 206	Richard Langsford	AmoCat BBS	(206)566-1155
Kitsap County Washington	Michael Schuyler	Quicksilver BBS	(206)780-2011
Maine 207	Scott R. Bodeen	Street Corner BBS	(207)442-0997
Central California AC 209	Jack Porter/Madera UG	Zen Den Systems	(209)675-8436
Graphical User Interface BBS	David Shapiro	The Gooey (GUI) BBS	(212)876-5885
96 List - 9600+bps BBS	Ken Sukimoto	Downtown BBS	(213)484-0260
Open Access UNIX Site List	Phil Eschallier	LGNP1 (login:BBS)	(215)348-9727
Pennsylvania AC 215/609/302	Ron Brandt	DSC/VOICENET	(215)443-9434
Cleveland Area 216	Jim Barry	Flip Flop	(216)951-9134
Champaign-Urbana IL AC 217	Eddie Thomson	The Dungeon BBS	(217)355-1214
Conservation/Nature BBS List	D.Wendling/JS Christianso	Coin of the Realm	(301)585-6697
Ham/Amateur Radio BBS	Stan Staten	3WINKs BBS	(301)590-9629
Handicapped Issues BBS	Richard Barth	HEX BBS	(301)593-7357
Desktop Publishing BBS	Frank Atlee	Infinite Perspective	(301)924-0398
Delaware AC 302	Vince Boehm/Dave Osburn	Talk Radio BBS	(302)429-7667
Medical Issues BBS	Edward Del Grosso	Black Bag	(302)994-3772
Colorado AC 303/719	Willis Morrow	Big Boy's BBS	(303)458-3832
Cave Exploration BBSs	Douglas L. Moore II	The CatEye BBS	(304)592-3390
South Florida Area 305/407	Eric Thav	Silicon Beach BBS	(305)474-6512
Southern California	Mike Hefferman	SOCAL Corner	(310)422-7942
California AC 310	Jim Walton	Illusions BBS	(310)804-3324
Detroit Area 313	Horst Mann	Tony's Corner	(313)754-1131
St. Louis AC 314	Beth Brooks	Fire Escape's Dir	(314)741-9505
ASP BBS Member List	Bob Ostrander	PBS-BBS	(317)856-2087
Engineering Related BBS	Arthur Petrzelka	Computer Plumber	(319)337-6723
Rhode Island Area 401	Mike Labbe	Eagle's Nest	(401)732-5292
Alberta AC 403	Stephen Decarie	T-8000	(403)246-4487
Calgary Alberta AC 403	Jose del Rio	The Quantum BBS	(403)252-5119
Atlanta Area 404	Online Atlanta Society	OASIS	(404)627-2662
Atlanta Area 404	Rodney Aloia	The INDEX System	(404)924-8472
Montana Area	Jay Michalik	Valley Light BBS	(406)273-6399
Orlando Florida AC 407	Matt Drury	London BBS	(407)895-1335
San Francisco Bay Area	Mark Shapiro	BABBA BBS	(408)946-5642
Baltimore BBS Area 410	Brad Blase	Silver Streak BBS	(410)683-1583
Pittsburgh AC 412	Chas Stokes	Zuul's Catacombs	(412)264-9787
National BBS List	DP McIntire/Beth Spotts	Ameriboard	(412)349-6862
North America Nudist List	Patrick O'Brien	Natural Connection	(414)426-2110
Ontario AC 416	Jeff Young	Tradewinds BBS	(416)503-4388
Toledo Ohio Area	Ryck Zarick	Programmer's Tech	(419)478-7333

BBSLIST TOPIC	AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
Arkansas Area 501	Bob Underdown	The Blue & The Grey	(501)444-8420
Portland Oregon BBS	Lisa Gronke	DawGone Disgusted	(503)297-9145
New Orleans BBS List	Jeff Jones	Southern Star BBS	(504)885-5928
New Mexico Area Code (505)	Dan Kiehl	MDC Computers BBS	(505)434-0258
Worcester MA AC (508)	Jim Metzler	Miwok Village BBS	(508)754-6512
Corpus Christi	James Cordani	Treasure Island	(512)241-8358
Austin Area BBS List AC 512	John Foster	Camel's Back BBS	(512)243-0077
Selected BBS	Joseph Caplinger & Son	J&J's BBS	(513)236-1229
List of Gay/Lesbian BBS	Eric Blair	S-TEK BBS	(514)597-2409
AC 516 Free Shareware BBS	Harold Stein	Long Island Exchange	(516)271-5303
Area Code 517 - Mid-Michigan	Rick Rosinski/SAMM	Wolverine BBS	(517)695-9952
Business/Professional BBS	Dennis Hauser	Delight The Customer	(517)797-3740
Phoenix AC (602)	John Mendivil	Majestic Royalty BBS	(602)278-1651
Phoenix AC (602)	Sue Widemark	Cheese Whiz BBS	(602)279-0793
Cochise County Arizona	Kevin McCrory	The Commo Shack BBS	(602)452-0587
Kentucky AC (606)	Jon Hagee	Kentucky Explorer	(606)271-1451
Wisconsin 608	Jim Wargula	JW-PC Dataflex.HST	(608)837-1923
New Jersey AC 609	Dave Schubert	The Casino PCBoard	(609)561-3377
New Jersey Area 201/609/908	Wayne R. Morton	Praedo BBS	(609)953-0769
Minnesota Twin Cities AC 612	Barry Watson	Abiogenetic BBS	(612)774-8454
Apple II BBS	Mike Shecket	Way Out	(614)436-4846
Tennessee AC 615/901	unknown	SPDA Info Service	(615)952-5638
San Diego, CA AC 619	Tom Grigg	ComputorEdge	(619)573-1675
San Diego AC 619	Joe Nicholson	General Alarm	(619)669-0385
Apple II BBS with Internet con	Morgan Davis	pro-sol	(619)670-5379
Virginia AC 703/804	Eddie Gebhard	PC Power House	(703)348-1423
OS/2 BBS Systems	Pete Norloff	OS2/Shareware BBS	(703)385-4325
Washington DC BBS List	Mike Focke	Interconnect	(703)425-2505
Geneology Related BBS	Richard A. Pence	NGS-CIG	(703)528-2612
Charlotte, NC AC 704	Blaine Schmidt	Moobasi Optics, Ink	(704)541-9842
Charlotte NC AC 704	Blaine Schmidt	Moobasi Optics, Ink	(704)541-9842
Black Run/Oriented BBS	Arthur "Rambo" McGee	BDPA BAC BBS	(707)552-3314
Chicago	Paul Chartraw	The Hideaway BBS	(708)748-1911
Airline Pilot/JUMPSEAT BBSs	Rex Chadwell	ChicAAgo Hangar	(708)980-1613
Houston Area 713	David E. Wachenschwanz	Atomic Cafe BBS	(713)530-8875
Rochester NY AC 716	Tracy Logan	Logan's Run	(716)328-2914
Ecology/Conservation BBS	Bob Chapman	EarthArt BBS	(803)552-4389
Firearms Related bbs	Jerry Brunet	Neon Nights	(804)588-4978
Wildcat! BBS	Jim Harrer	Wildcat! HQ	(805)395-0650
Central California Area 805	Larry Honore	His Board	(805)652-1478
Oahu Hawaii	Brent Davis	Land's End BBS	(808)499-2527
Technical Support BBS List	Gary Barr	Digicom BBS	(812)479-1310
Pinellas/Tampa Florida AC 813	Emery Mandel	Mercury Opus	(813)321-0734
Kansas City Area 816/913	Roy Timberman	Sound Advice	(816)436-4516
Dallas/Ft Worth Area 214/817	Mark Robbins	Second Sanctum	(817)784-1178
Occult BBS	Phil Hansford	Mysteria	(818)353-8891
Commodore 64/128/Amiga BBS	John Rigali	Night Gallery	(818)448-8529
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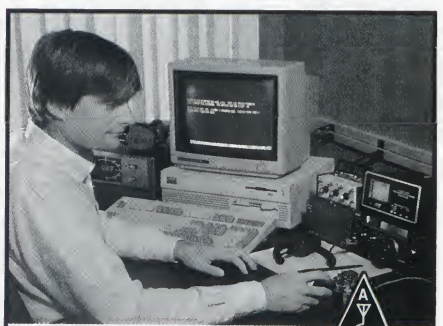

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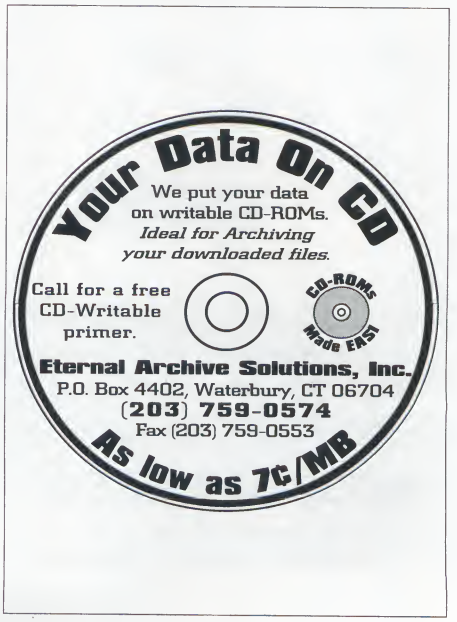

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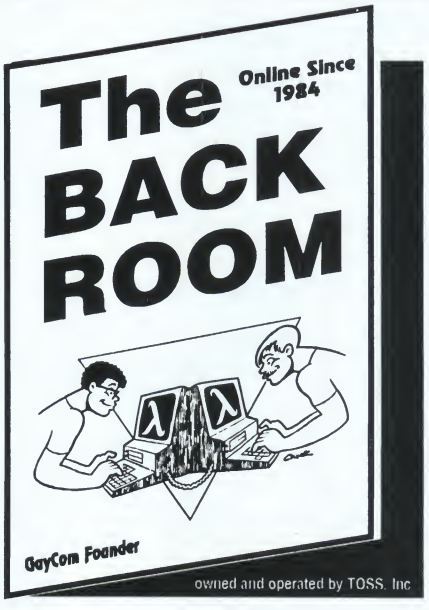

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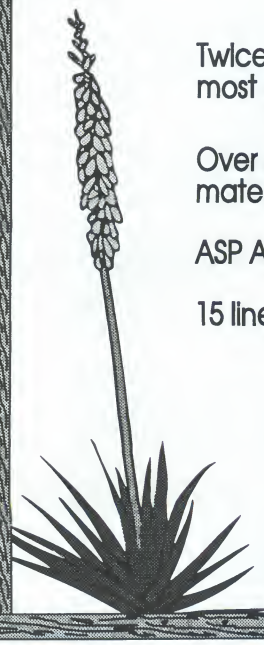

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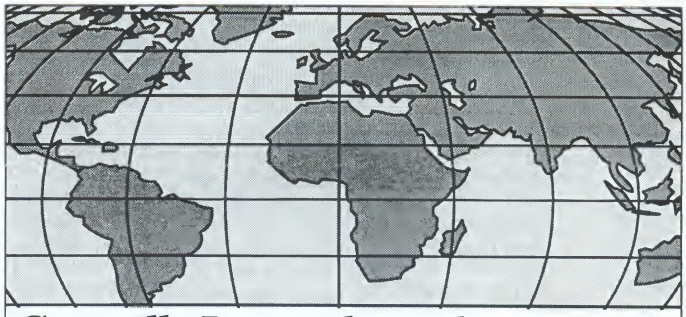

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American Cybernetics BBS	(602)968-1082	Multi-Edit Product Support BBS	American Cybernetics	Tempe ,AZ
ANARC BBS	(913)345-1978	World Radio/TV Handbook - Short Wave Freq Lists/Scheds.	Assoc. of North American Radio Clubs	Shawnee Mission ,KS
APCUG - GlobalNet	(408)439-9367	Association of PC User Groups - Over 2000 UG officers	Paul Curtis/APCUG	Scotts Valley ,CA
Applied Modeling Research RBBS	(919)541-1325	Environmental Protection Agency Atmospheric Models	William Peterson/EPA	Hurdle Mills ,NC
Aquila BBS	(708)820-8344	6 GB 25 Nodes Fidonet/Interlink/Metronet MCe IL/CHI Graphics	Kevin Behrens/Steve Williams/Doug Bell	Aurora ,IL
Argus Computerized Exchange	(617)674-2345	Multiline Community Chat Service - Restuarant Review dbase	Pam Morrison	Lexington ,MA
AST Technical Services BBS	(714)727-4723	Superb support system for AST Computer Products	AST Research Inc.	Irvine ,CA
AT&T Support BBS	(908)769-6397	Support for PC 6300 and Other AT&T PC Models	American Telephone/Telegraph PC Division	Plainfield ,NJ
ATI Support BBS	(416)756-4591	Support for ATI Modems and Video Cards	ATI Technologies	Scarborough ,Ontario
Atomic Cafe BBS	(713)530-8875	Houston Area BBS list and Connect! Magazine	David Wachenschwanz	Houston ,TX
Atri BBS	(903)758-2784	4 Gigs Online All Fidonet Message areas Over 200 door games	Walter Cade	Longview ,TX
Attention to Details	(714)681-6221	Utilities/ASP/Patriquin Utils/Protocols	Clint Bradford	Mira Loma ,CA
Audiophile Network	(818)988-0452	High-end Audio Components, Music, Video Reviews	Guy Hickey/Quatre Speakers	Van Nuys ,CA
Automobile Consumer Services	(513)624-0552	New Car Pricing Reports - Used Car Value Reports	Automobile Consumer Services Inc.	Cincinnati ,OH
AviTechnic 1:261/662	(301)252-0717	Software Distribution System - BBS Utilities	Tom Hendricks	Lutherville ,MD
BBS America	(214)680-3406	Home of DFW Online Electronic Newsletter	Jay Gaines	Richardson ,TX
BCS BBS	(213)962-2902	Los Angeles' First Super BBS Under Development	Jim Lee	Los Angeles ,CA
BCS IBM BBS	(617)964-2540	IBM PC Topics - TBBS Software (Internet)	Boston Computer Society/Martin Hannigan	Boston ,MA
BCS Info Center BBS	(617)621-0882	General Topics - TBBS - Internet Mail	Boston Computer Society/Martin Hannigan	Boston ,MA
BCS Mac BBS	(617)864-0712	Macintosh Topics - Firstclass BBS Software	Boston Computer Society/Martin Hannigan	Boston ,MA
Beach Board BBS 1:371/1	(813)337-4950	Over 100 online games - Internet Mail - 8 lines - 48000 fls	Dave Ward	Fort Myers ,FL
Beyond Eternity	(310)371-3734	Home of EEEK! Bits - Weekly Electronic Trivia Magazine	J. Black/K. Taghadossi	Torrance ,CA
Beyond the Realm	(805)987-5506	200+ message areas 60+ file areas Fidonet VNet Adult Topics	Lee Ladisky	Camarillo ,CA
BMUG BBS	(510)849-2684	Support for Macintosh owners - files - conferences.	Berkeley Macintosh Users Group	Berkeley ,CA
Boardwatch Magazine Online Info	(303)973-4222	Distribution Service for USA Today/Boardwatch/Newsbytes	Boardwatch Magazine	Littleton ,CO
Book BBS	(215)657-6130	Information on 2000 Computer Books - 800 order number	Business & Computer Book Store	Willow Grove ,PA
Book Stacks Unlimited	(216)694-5732	200,000 Book Titles Database - Online Ordering	Charles Stack	Cleveland ,OH
Borland Download BBS	(408)431-5096	Utilities, Macros, Programming Examples for Borland Products	Borland International/Mike Fitz-Enz	Scotts Valley ,CA
Botnay Bay EIS	(603)431-7229	20 GB of Files - Adult areas - BBS Lists	Myles Bratter	Portsmouth ,NH
Boundary Waters BBS	(218)365-6907	Canoe Trips/Resorts/Fishing/Wilderness in Minnesota	Gary Knopp/InfoNorth	Ely ,MN
Bruce's Bar & Grill	(203)236-3761	24-line Social System - Chat - Games - Downloads	Bruce Lomasky	West Hartford ,CT
Bryant Software	(303)733-0773	Support & Demo of Bryant Software & TBBS Products	Alan Bryant	Denver ,CO
C.A.R.L Library Service	(303)758-1551	Citations to 4 Million Texts in Colorado Library System FREE	Colorado Alliance of Research Libraries	Denver ,CO
CAD/Engineering Service	(615)822-2539	Computer Aided Design File Distribution Network 1:116/32	Stan Bimson	Hendersonville ,TN
Canada Remote Systems	(416)213-6003	23GB/400000+ files, 3500 Conf's,USENET, IBM/Amiga/Mac	Neil Fleming/Jud Newell	Mississauga ,Ontario
Capital PC User's Group BBS	(301)738-9060	One of the oldest PC User's Groups - 5500 members	Capital PC Users Group/Roger Fajman	Rockville ,MD
Castle Tabby 107/412	(908)988-0706	Home of TABBY Fidonet Interface Program for Apple Macintosh	Michael E. Connick	Bradley Beach ,NJ
Caverns of the Abyss	(405)482-2980	4 Gigs Online CD Roms	Shannon Graham	Altus ,OK
CBBS/Chicago	(312)545-8086	First Electronic Bulletin Board - Since 2/16/78	Ward Christensen/Randy Suess	Chicago ,IL
Celebration Station	(207)374-5161	Adventure Games, Chat, and Sigs - Children	Noel Stookey (Paul of Peter,Paul & Mary)	Blue Hill Falls ,Maine
Central Point Software	(503)690-6650	PC Tools - Central Point Anti-virus support board	Central Point Software Inc.	Beaverton ,OR

Channel 1	(617)354-8873	70-line PCBoard - 8 GB Files - Internet - 1000's msg. confs.	Brian Miller/Tess Heder	Cambridge ,MA
Chicago SysLink	(708)795-4442	Special Interest Areas for Ferret/Pet Owners.TRS80/Aviation	George Matyaszek	Berwyn ,IL
Chinet	(312)283-0559	UNIX System offering Internet Mail	Randy Suess	Chicago ,IL
City Lites PCBoard	(701)772-5399	9 GB files, Rimenet, Internet, FidoNet, ASP, Online Orders	John Lundell	Grand Forks ,ND
City Online	(909)860-Line	City Government BBS Rip/Internet & more	Troy Butzlaff	Diamond Bar ,CA
Classified Connection BBS	(619)566-7347	Giffy Girls - Nude GIF Images of the Girl Next Door	Bill Kennon	San Diego ,CA
Cleveland Freenet	(216)368-3888	Cleveland City Info/Public Library - Free Internet Mail Box	Case Western University/AT&T/Ohio Bell	Cleveland ,OH
Cloud Nine	(713)855-4382	15 meg, 30 Nodes	Harold Lucas	Houston ,TX
Colorado Connection	(303)423-9775	Breeding, Raising, Taming, Exotic Birds	Terry Rune/Dave McClauggage	Arvada ,CO
Community News Service (CNS)	(719)520-5000	News and Entertainment - 17 Lines Community Focus	Klaus Dimmler	Colorado Springs ,CO
Compact Audio Disk Exchange	(415)824-7603	Buy/Sell/Trade Compact Audio Disks Online	Wayne Gregori	San Francisco ,CA
Computer Business Services	(909)396-0014	Book/Publishing Consultant John C. Dvorak & Nick Anis' BBS	Nick Anis Jr.	Diamond Bar ,CA
Computer Business Services	(714)396-0014	Book/Publishing Consultant Nick Anis' BBS	Nick Anis Jr.	Diamond Bar ,CA
Computer Garden	(301)546-1508	Treasure Hunting - Metal Detectors - Online Catalog	Milford P. Webster	Salisbury ,MD
Computing Canada Online	(416)497-5263	Adjunct to Excellent Canadian PC Newspaper	Computing Canada Newspaper	Willowdale ,Ontario
Crosstalk Communications BBS	(404)740-8428	Product Support for Crosstalk for Windows/MK4/XVI	Digital Communications Associates	Roswell ,GA
Cul-de-Sac Bar & Grill	(508)429-1784	Multiline Service - Ham Radio - Humor - TDBS Applications	Pete White	Holliston ,MA
CyberStore - a COCONET BBS	(604)526-3676	All lines to v.32bis/v.42/v.42bis. CyberTools for BBS'es	CyberStore Online Info. Systems Inc.	New Westminster ,BC
DAK Online Resource Center	(818)715-7153	DAK Mail Order Catalog - Breakmakers - CD ROMS - Computers	DAK Industries/Tom Krogh	Canoga Park ,CA
Dark Side of the Moon	(408)245-7726	Home of WAFFLE, Unix UUCP BBS Software for DOS and UNIX	Thomes E. Dell/Darkside International	Mountain View ,CA
Data Bank	(913)842-7744	Information HQ, Support Board, Net-Mail & Files	Bob Oyler	Lawrence ,KS
Data Core BBS	(310)842-6880	25 line Major BBS	Matthew Schoen/Delta Enterprises	Los Angeles ,CA
DataLink RBBS System	(214)394-7438	Weather Satellite Imaging, NOAA Satellite Tracking-AMSAT-NA	Dallas Remote Imaging Group/Jeff Wallach	Carrollton ,TX
Dawg Byte	(615)385-4268	ANSI Art Club 1:116/29	Kevin Snively	Nashville ,TN
Deep Cove BBS	(604)536-5885	16 line TBBS, 3500 MBytes files for IBM, MAC, Amiga	Wayne Duval	White Rock ,BC
Denver Exchange, The 104/909	(303)623-4965	Denver's Most Diverse Gay/Lesbian Info Service	James Craig	Denver ,CO
Denver Free-Net	(303)270-4865	Free Community Online Service - Health Info	University of Colorado Health Science	Denver ,CO
Distant Mirror BBS	(615)648-1782	Free Access BBS	Steve Perlo	Clarksville ,TN
Distributed Info Service	(718)727-1456	Information Service	Joseph Bianco	Staten Island ,NY
DNIS	(619)864-1468	Outstanding BBS Gateway to multiple information services	Mike Simmons	Palm Springs ,CA
Duke Graphics of San Diego	(619)793-8360	7 CD Roms Online, 4 gigs 50,000 files	Chris Duke	San Diego ,CA
EarthArt BBS	(803)552-4389	Wildlife/Conservation Art Gallery GIF Images	Ambassador Wildlife Gallery/Bob Chapman	North Charleston ,SC
Ed-Net	(604)732-8877	Vancouver School Board Multi-Line Educational Network	Barry Macdonald/Vancouver Board of Ed	Vancouver ,BC
Electric Ideas Clearinghouse	(206)586-6854	Energy Efficiency Efforts In Pacific Northwest-HydroElec	Bonneville Power Administration WSE	Olympia ,WA
Electronic Publishers BBS	(503)624-4966	News-Finance-Sports-Games-2GB File Library	Brian Cash	Portland ,OR
Electronic Zone, The	(412)349-3504	Specializing in Hypertext	William R. Forbes	Indiana ,PA
Energy Info Admin E-Publications	(202)586-8658	Variety of Petroleum/Coal/Electricity Energy Statistics	US Department of Energy	Washington ,D.C.
Entertainment & Graphics	(503)697-5100	Entertainment & Graphics	Jim Maxey	Lake Oswego ,OR
eSoft Product Support BBS	(303)699-8222	Home of The Bread Board System (TBBS) BBS Software	Phil Becker/eSoft Inc.	Aurora ,CO
Event Horizons	(503)697-5100	64 Line Digitized Graphics Image Library - Adult .GIF files	Jim Maxey	Lake Oswego ,OR
EXEC-PC	(414)789-4210	Largest BBS in US - 280 Lines -650,000 files - 35 Gigabytes	Bob and Tracey Mahoney	Elm Grove ,WI
Executive Network	(914)667-4567	Interlink Netmail National Host - Multiline PCBoard System	Andy Keeves	Mt. Vernon ,NY
Eye Contact BBS	(415)255-5972	22 line Oracomm - Gay Issues - Popular Chat System	Bill Montgomery	Mill Valley ,CA
Falken Support BBS	(703)803-8000	Support for FALKEN software - 16 lines - doors - chat	Herb Rose	Woodbridge ,VA
Farwest BBS	(604)381-3934	Large Western Canada Galacticomm Info System	Ren L'Ecuyer	Victoria ,BC
FAX/Satellite Services BBS	(619)224-3853	NOAA Weather Satellite Images - Russian/Japanese Sat Pics	Scotty Olson	San Diego ,CA
FCC Public Access Link	(301)725-1072	Equipment Authorization Status Advisory Service	Federal Communications Commission	Columbia ,MD
FEDLINK ALIX II	(202)707-4888	Info on Federal Libraries -Excerpts Library of Congress News	Federal Library Information Network	Washington ,D.C.
Fido Tech Stand	31-30-735900	Fidonet Technical Information for Holland	J.J. van der Maas	Utrecht ,Holland
Fire & Ice	(313)373-8608	A Family BBS With Christians Discussions	William Sims	Drayton Plains ,MI
Fisherman's Net	(614)837-0400	Dedicated to Fisherman	Lloyd Davidson	Carroll ,OH
FOG City BBS 125/10	(415)863-9697	Gay Community BBS - AIDS Info - Desktop Publishing - MACs	Bill Essex	San Francisco ,CA
Foundation Online Service	(203)968-8752	15+ Gigs 8 Lines Internet	David Deutsch	Stanford ,CT
Fred the Computer	(508)872-8461	Newspaper BBS. Wierdnet Newswire. List of MA Libraries	Middlesex News-Adam Gaffin	Framingham ,MA

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BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARDS AND ONLINE INFORMATION SERVICES - March 1994

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSOP	LOCATION
FreeBoard BBS, The	(804)744-0797	Desktop Publishing File Distribution Network 1:264/212	Bill Hunter	Midlothian ,VA
Fun Connection	(503)753-8431	Multiline Entertainment - 8 Lines Games/Chat/News	Vincent Reece	Corvallis ,OR
Galacticomm Demo System	(305)583-7808	Customer support for Major BBS	Galacticomm	Fort Lauderdale ,FL-
Garbage Dump	(505)294-5675	Hottest Chat in America - National Access $1.75 per Hour	Dean Kerl & Simon Clement	Albquerque ,NM
Gateway Communications BBS	(714)863-7097	Novell Netware/TCP-IP Shareware Utilities	Carol De Jesus	Irvine ,CA
Gateway On-Line	(313)291-5571	Interactive Chat,MulitiplayerGames,Usenet/Internet,E-mail	Jeff Breitner/Bill Mullen	Rockwood ,MI
GDP Technologies	(303)673-9470	Outstanding IBM Shareware on a small system	Tom Getty's	Lafayette ,CO
General, The	(619)281-8616	Popular File Library - GIF Images	Marc Teitler	San Diego ,CA
GISnet BBS	(303)447-0927	Graphics Information Systems/Mapping topics	Bill Thoen	Boulder ,CO
GLIB	(703)578-4542	Gay and Lesbian Information Bureau - 11 Lines - 9600 bps	Community Educational Svcs. Foundation	Arlington ,VA
GPO WINDO Online Service	(202)512-1387	Fed Information from EPA, DOE, State Department - others.	US Government Printing Office	Washington ,DC
Greenpeace Environet	(415)512-9108	Ecological and Peace Issues - Disarmament/Toxics/Wildlife	Dick Dillman/Greenpeace	San Francisco ,CA
Hackers R Us Online	(602)945-8416	Online Games, Files & Tech Discussions	David Ray	Scottsdale ,AZ
Hackers World BBS	(309)672-4405	Adult Files, Fidonet Echo-Mail Adult-net	Martin Belcke	Peoria ,IL
Harris City Medical BBS	(713)790-1093	Medical Information	Monica Faulk	Houston ,TX
Hayes Advanced Systems Support	(800)874-2937	Customer Support Line for Hayes Customers. V-series/Ultra	Hayes Microcomputer Products	Norcross ,GA
Heartland Free-net	(309)674-1100	Community Online Service - Free Internet E-Mail Boxes	Peoria County Board/Bradley University	Peoria ,IL
Herpnet/Satronics TBBS	(215)698-1905	Reptile and Amphibian Studies - Poison Snakes/Toads/Fish	Mark Miller	Philadelphia ,PA
HH Info-Net BBS	(203)246-3747	MS Windows and OS/2 Files our specialty	Lee Winsor	New Hartford ,CT
HoloNet	(510)704-1058	National Access,INTERNET,USENET,CHAT,GIFS,FILES	Information Access Technologies, Inc.	Berkeley ,CA
HouseNet BBS	(410)745-2037	Home Fixup/Repair/Renovation Tips, Advice, and Articles	Gene and Katie Hamilton	St. Michaels ,MD
Howard's Notebook 1:280/25	(816)331-5868	Environmental, Peace, Justice since 1982 - 4 nodes	Jim Howard	Kansas City ,MO
Hysterics	(613)231-7144	Amiga File Distribution Network 1:163/109	Russell McOrmond	Ottawa, Ontario ,
IBM National Support Center BBS	(404)835-5300	IBM PC User Groups Database - Newsletter Exchange	IBM National Support Center	Atlanta ,GA
Inbound/Outbound/Teleconnect	(212)989-4675	Telephone Sales Trade Magazine Online Service	Harry Newton Publications	New York ,NY
Infinite Space Online	(407)856-0021	32 Line Interactive Chat & Games Majornet	Charlie Scherker	Orlando ,FL
InfoHost Demo BBS	(201)335-2253	Demo BBS for InfoHost BBS Software - Multiline - Database	A-Comm Electronics Inc.	Hasbrouch Heights ,NJ
Inns of Court, The	(214)458-2620	LAN Related Files and Utilities 1:124/6101	Arthur Geffen	Dallas ,TX
Intel PCEO Support BBS	(503)645-6275	Support for Intel PC Products - Inboard 386/AboveBoard 286	Intel Corporation PCEO Division	Hillsborough ,OR
Inter Comm	(702)359-2666	6 Line 5.5 Gig 30,000 Files	Roger Brown	Spark ,NV
InterMail Tech Support BBS	(305)436-1884	Home of InterMail, Front End Mailer for FidoNet 1:369/102	Patrik Bertilsson	Hollywood ,FL
Invention Factory	(212)274-8110	46 Lines - 100 Directories - Full Usenet Feed - 8.2 GB	Mike Sussell	New York ,NY
Investor's Online Data	(206)285-5359	Online Investment/Stock Market Information/Tech Analysis	Don Shepherdson	Bellevue ,WA
JDR Microdevices BBS	(408)559-0253	Online Hardware Order - Catalog - 1.1 GB Files - Quizzes	JDR Microdevices	San Jose ,CA
JOBBS	(404)992-8937	Online Job Listings - 2186 Technical Pos. - 10,000 Corps.	Alpha Systems Inc./Bill Griffin	Roswell ,GA
Keith Graham Shareware Support	(914)623-0039	OPTIK, TEXT2COM, CBOOT, very good shareware utilities	Keith P. Graham	Nyack ,NY
KIMBERELY BBS	(612)340-2489	Prime Rate-Fed Funds-T-Bill-Discount Rate-Economic Data	Federal Reserve Bank of Minneapolis	Minneapolis ,MN
King's Market BBS 104/115	(303)665-6091	400 MB Books, Writers Area - TRS 80 Support	Jim and Karen Burt	Boulder ,CO
Knight Vision BBS	(213)344-3600	Chess and Backgammon - 8 lines - "Intelligent Entertainment"	Matthew Beelby	Pasadena ,CA
Lace's Place	(718)822-3552	Female Domination Adult BBS online since 7/91	Ellen Grogan	New York City ,NY
LANtastic BBS	(602)293-8065	Support for LANtastic local area network	Artisoft Inc.	Tucson ,AZ
Late Night Software 125/555	(415)695-0759	Home of UFGATE - Software to connect PCs to UUCP/Usenet	Tim Pozar	San Francisco ,CA
LegalEase	(509)326-3238	Legal issues/Forms - Law BBS List	Bill Sorcinelli	Spokane ,WA
LICA Limbs BBS	(516)561-6590	Member written software PC Board 15.0 USR HST Since 1980	Dave Minott	Valley Stream ,NY
Lincoln Cabin BBS	(415)752-4490	General Interests & Rime	Steve Pomerantz	San Francisco ,CA
MAC-LINK	(514)486-8959	Macintosh Oriented Support BBS - 6 Lines - Infomat/BIX	Mark Smith	Montreal ,Quebec
Macalot Bulletin Board	(412)846-5312	Support for Second Sight BBS Software for Macintosh	Jeff Dripps/FreeSoft Company	Beaver Falls ,PA

MacCircles	(303)526-2219	Mac System Software distributor, mail, sigs, files	Patricia O'Connor	Golden ,CO
MacInternational	(803)798-3755	Macintosh support since April '85. FirstClass BBS	Ralph Yount	Columbia ,SC
Magpie BBS	(212)420-0527	Support/Demo System for Magpie BBS/Conferencing Software	Steve Manes	New York ,NY
MaxiHost Support BBS	(209)836-2402	MaxiHost BBS - small, very easy to run BBS	Don Mankin	San Ramon ,CA
Mayan Antiquities	(214)691-1316	Mayan Culture and Antiquities	Ron Whipple	Dallas ,TX
McAfee Associates BBS	(408)988-4004	Computer Virus Information - VIRUSCAN and CLEANUP	John McAfee/CVIA	Santa Clara ,CA
Med Technet	(716)688-1552	A BBS for Medical Info	Bill Hliwa	East Amherst ,NY
Medi-Call BBS	(818)330-1739	Active 2 lines PubSvc w/ 120 netmail confs., & GIGs of Files	Gordon Huyck	,
Meeting Works, The	(212)737-6932	Meeting/seminar/convention planning information.	John Mackenzie	New York ,NY
METRO Online Entertainment	(212)831-9280	32 line DLX with City Guide/Ski Database - Matchmaker - Chat	Bruce Kamm/Metro Online Services	New York City ,NY
Micro Foundry, The	(415)598-0398	2.2 GB Downloads - Your Online Software Source - Boardwatch	Thomas Nelson/Clockwork Software	San Jose ,CA
Micro Message Service	(919)779-6674	USA Today/Boxoffice Magazine - Large Download Area	Mike Stroud	Raleigh ,NC
Microrim Technical Support BBS	(206)649-9836	Support for Popular R:Base Relational Data Base System	Microrim Corporation	Redmond ,WA
Microsoft Download BBS	(206)936-6735	Windows Technical Notes and Support Information	Microsoft Corp/Scott J. Honaker	Bellevue ,WA
Microsystems Software Inc.	(508)875-8009	HandiWare Software for Handicapped - CodeRunner C Utilities	MSI - Reed Lewis	Framingham ,MA
MindVox	(212)989-4141	Internet Access, E-Mail, Newsgroups, ftp/telnet	Phantom Access Technologies	New York ,NY
Minnesota Space Frontier	(612)459-0892	Minnesota Space Frontier Society - NASA News	Ben Husset	Minneapolis ,MN
MOG-UR'S EMS, The	(818)366-1238	5 Lines - 8 Networks CD-ROMS - 2.8 GB Hub Services HST/V.32	Tom Tcimpidis	Granada Hills ,CA
Monterey Gaming System	(408)655-5555	A Custom Multi-user BBS with Conferencing and Custom Games	David Janakes	Monterey ,CA
Mountain Air BBS	(703)427-0226	Adult Based BBS	Edward Lee Wood, Jr.	Roanoke ,VA
Movie BBS	(718)939-5462	Movie Reviews and Information - Television	Clarke Ulmer	New York ,NY
Mustang Software	(805)873-2400	Support for Mustang Software Products	MSI Sysop	Bakersfield ,CA
N.A.C.D. BBS	(912)246-3280	Cave Scuba Diving - Superb Special Topic System	National Assoc. of Cave Divers	Gainsville ,FL
N8EMR Ham BBS	(614)895-2553	login:hbbs HAM Radio/AMSAT Unix System - Satellite/Packet	Gary Sanders	Westerville ,OH
NAPLPS Graphics BBS	(613)727-5272	NAPLPS Graphics Terminal and Editor Software	MicroStar Corp.	Nepean ,Ontario
NASA Spacelink	(205)895-0028	NASA Educational Affairs Div. - Flight Data/Space History	Marshall Space Flight Center	Huntsville ,AL
Nashville Exchange	(615)383-0727	12 line TBBS - Games/TDBS Software Development 1.8 GB	Ben Cunningham	Nashville ,TN
National Genealogical BBS	(703)528-2612	Family History - Genealogical Research - Gravestone Haunting	National Genealogical Society	Arlington ,VA
Netcom Internet Guest System	(408)241-9760	Internet Access System - type "guest" at login for info.	Netcom Online Communications Services	San Jose ,CA
Network World Bulletin Board	(508)620-1178	LAN and WAN Issues and Technology	Network World Magazine	Framingham ,MA
Newbed	(506)453-2147	Educational System K12 Net	William Brydges	Fredeericton ,NB
Newtown Express BBS	(215)943-6806	14.5 Gigs/700+Sigs 18 Lines Large Adult Section USA Today	Anthony Maglietta	Newton ,PA
Night Shift, The	(818)955-5155	16 lines/chat/Usenet Newsgroups/Internet Mail/USATODAY	Charles Hilt	Burbank ,CA
NIST ACTS	(303)494-4775	Automated Computer Telephone Service - Sync PC to NBS Time	Nat. Institute for Standards/Technology	Boulder ,CO
NOAA Space Environment Lab	(303)497-5042	Solar Flare/Geomagnetic Data Online	National Oceanographic/Atmospheric Admin	Boulder ,CO
NoGate Consulting	(616)530-3392	Home of PAK archive utility	Mike Neuhaus Gus Smedstad	Grand Rapids ,MI
North Castle BBS	(507)281-8292	Minnesotas #1 RPG BBS	Rob Richter	Rochester ,MN
O&E Online	(313)591-0903	Free Community BBS, Editorial Text from Newspapers	Greg Day	Livonia ,MI
OAQPSTTN	(919)541-5742	Air Quality Planning and Standards Technology Transfer Net	Environmental Protection Agency	Research Triangle Pk ,NC
OASIS BBS	(404)627-2662	Home of Atlanta Bulletin Board List - ABBL	Robert Orr/Online Atlanta Society	Decatur ,GA
Occupational Health/Safety BBS	(212)385-2034	Job Safety Issues for Artists, Musicians, Entertainers	Mike McCann/Center for Safety in Arts	New York ,NY
Odyssey	(818)358-6968	Adult Multiline Chat System - Games - Magazines - Downloads	Michael Allen	Monrovia ,CA
ODYSSEY	(818)358-6968	Largest Adult Based Entertainment Service In North America	Michael Allen	Monrovia ,CA
OERI BBS	(800)222-4922	Educational Statistics and Data - Performance Stats -	US Department of Education	Washington ,D.C.
Old Colorado City Communications	(719)632-4111	Political Discussions - Unix UUCP Public Access - Multiline	Dave Hughes	Colorado Springs ,CO
Online Now	(807)345-5522	Canada's shareware house is online now	Gary Walsh/Tom Haavisto	Thunder Bay ,Ontario
Online With Hayes	(404)446-6336	Hayes Public Bulletin Board - Conferences/SIGS/Support	Hayes Microcomputer Products	Norcross ,GA
Oracle PC	6108 260-6222	South Australian TBBS Multiline System	Don Crago	Pooraka South Australia ,
Oracomm Support BBS	(612)894-5879	Sales and Support for Oracomm Multiline BBS Software	Surf Computer Services	Minneapolis ,MN
Osprey's Nest	(301)989-9036	Birdwatching, Bird feeding, Naturalist/Ecology Issues	Fran and Norm Saunders	Colesville ,MD
Ozone Hole, The	(504)891-3142	Boardwatch-USA Today-Internet-Usenet-RIME	Mike Mathews	New Orleans ,LA
P.D.S.L.O. BBS	(516)938-6722	Home of THE LIST National BBS List	James Toro	Hicksville ,NY
PacComm BBS	(813)874-3078	Packet Radio Equipment Supplier - TNC/PSK Modems	Gwyn Reedy/PacCom Inc.	Tampa ,FL
PC Junction BBS	(615)478-2890	Smartnet Throbnet 100,000 Files & Online Magazines	Douglas Carpenter	Cleveland ,TN

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BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARDS AND ONLINE INFORMATION SERVICES - March 1994

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSOP	LOCATION
PC Ohio	(216)381-3320	Shareware library with 100% USR HST access - 24 lines	Norm Henke	Cleveland ,OH
Pennywise	(800)752-3012	Online Office Supply Sales Service	Pennywise	Edmonston ,MD
PHYSICS Forum BBS	(413)545-1959	Physics and Astronomical Sciences	Univ.of Mass. Dept. of Physics/Astronomy	Amherst ,MA
Pinecliffe BBS 104/28	(303)642-7463	Large Shareware Library/Echomail Conferences since 1985	Craig Baker	Pinecliffe ,CO
Pinnacle Software BBS	(514)345-8654	Support for Sapphire BBS Software	Timothy Campbell/Pinnacle Software	Montreal ,Quebec
Pipeline, The	(209)592-9861	Construction topics for contractors, suppliers, public works	Michael W. Adams	Fresno ,CA
PKWare BBS	(414)354-8670	Home of PKZIP 1.10 Compression Utility	Phil Katz/PKWare Incorporated	Glendale ,WI
Pleasure Dome	(804)490-5878	Sexually Explicit Fantasy Chat System - Adults only	Tom Terrific	Tidewater ,VA
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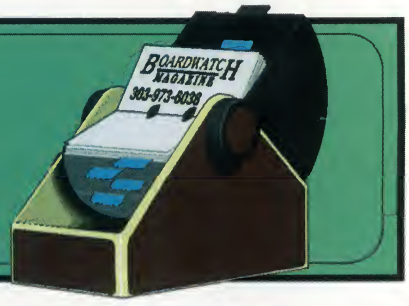

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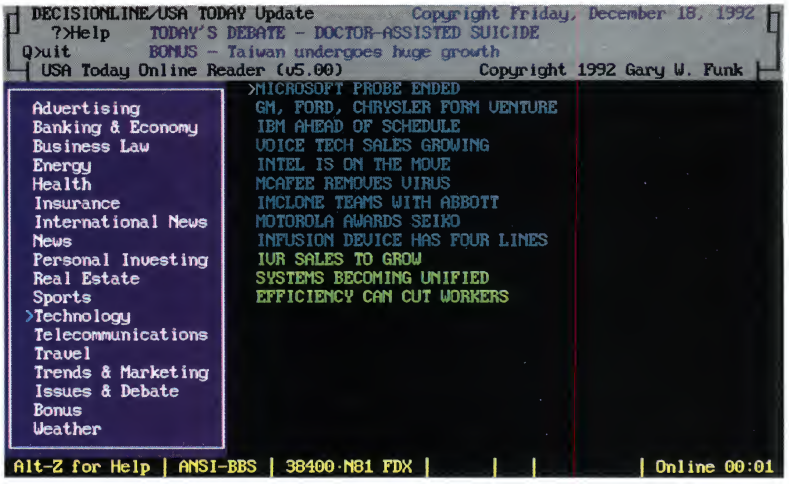

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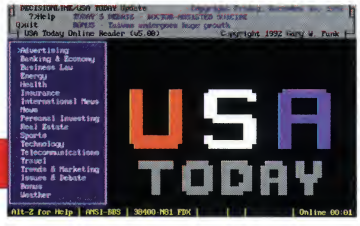

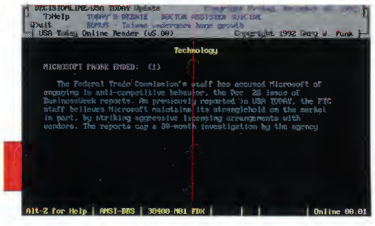

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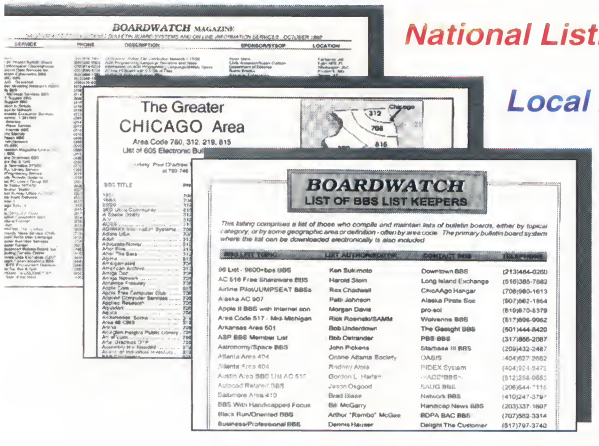

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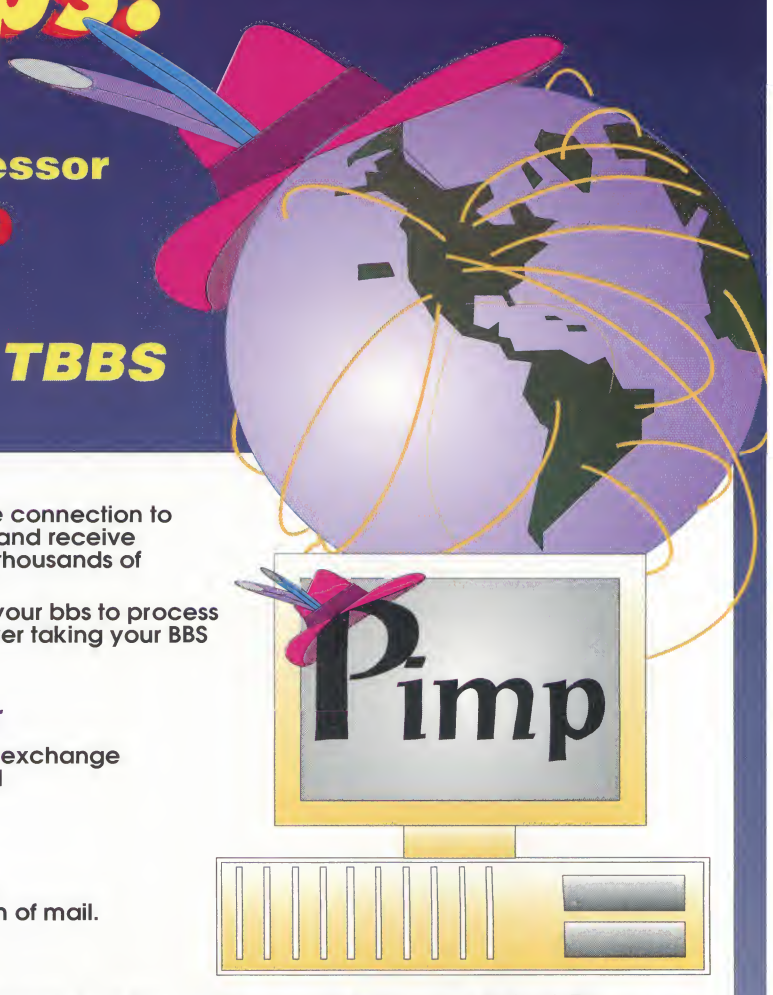

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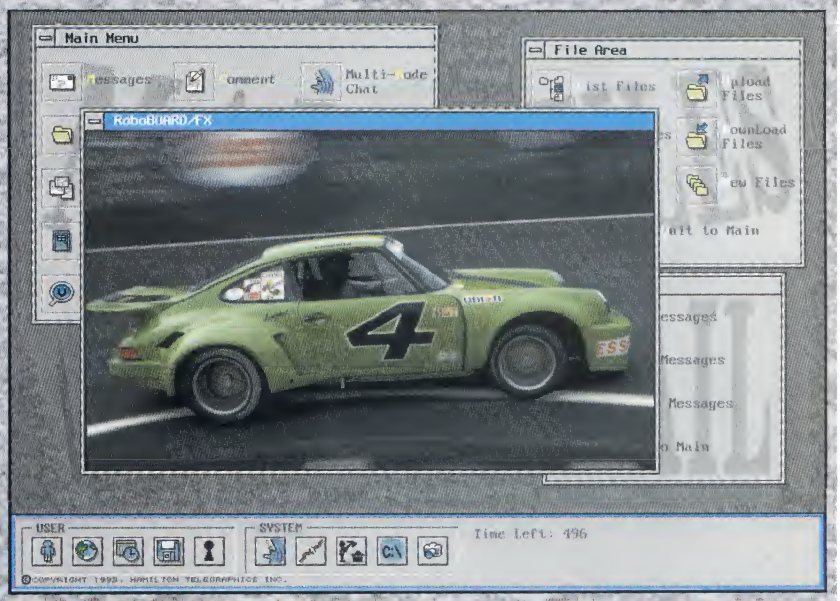

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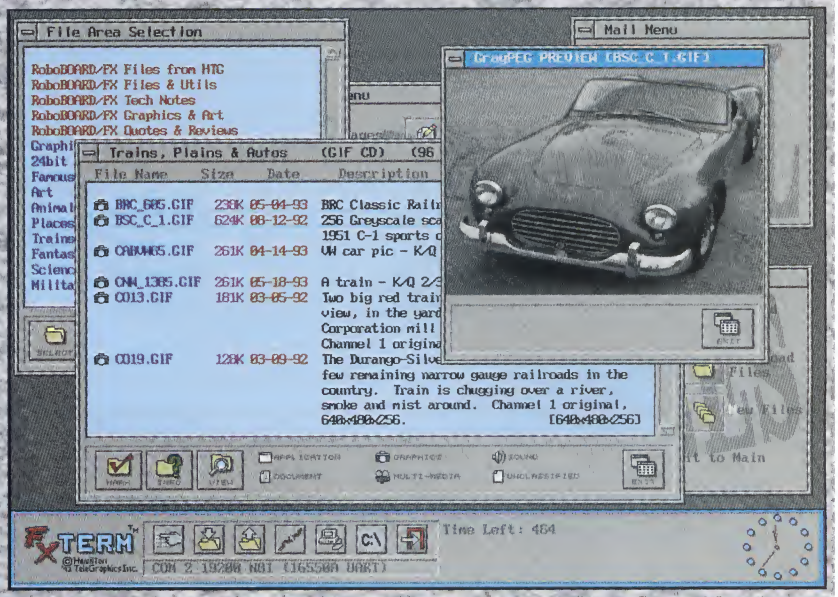

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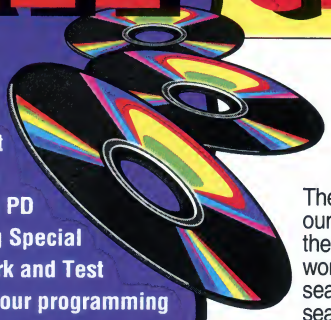

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